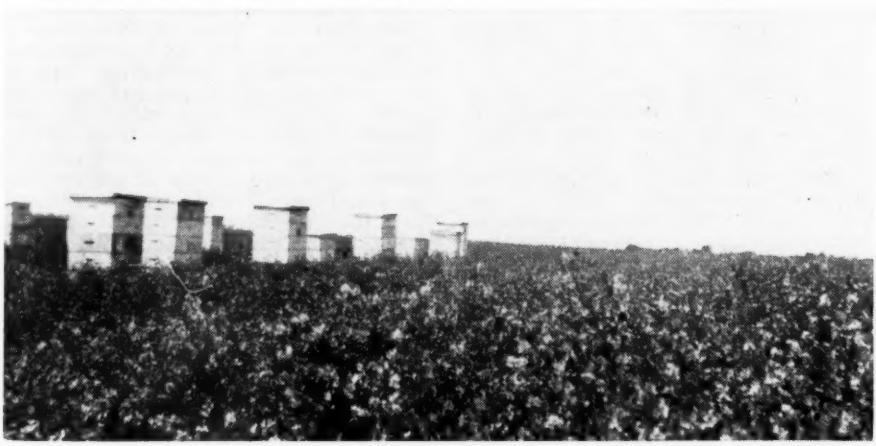
Gleanings in Bee Culture

Created to help beekeepers succeed

March, 1952 - - Vol. 80, No. 3

Pollination Practices Compared

By Howard J. Rock, Dale, Wisconsin



Large hives in the alfalfa. Some of these colonies had four supers of honey over the food chamber on Aug. 22nd. The owner of these bees will not only have his share of the seed but a good crop of water white honey, depending on the weather, of course.

"Take off the rest of the day and be back about 7 P. M. to load up the bees." This is the usual prelude to a night of moving bees to the alfalfa fields here in the Red River Valley of Minnesota.

Unlike the fruit farmers of the East, the alfalfa growers of this section are just beginning to become interested in commercial pollination. Although they have come late, they have come very decidedly. If farmers and growers are interested in pollination the prerequisite is a large, successful commercial beekeeper who can supply big colonies by the thousands. The smaller beekeepers can do a good job to a limited extent but a large, important growing area must have the services of an extensive apiary.

Pollination practices of the Eastern orchards and Red River Valley alfalfa fields are very dissimilar. During my experiences in New York State, Connecticut, and Massachusetts we were always in a rush to get the bees in shape and inspected so that they could be placed in the orchards in late April and May, depending on the variety and type of fruit. Many times we would be working the bees in weather that necessitated a heavy jacket. Then there were the rains, weak colonies, newly discovered AFB, etc.

B & Z Library

Hives placed in groups of 16 in a large alfalfa field in the Red River Valley. This is truly one of the rich farming areas of the western hemisphere duplicated in few places.

My first spring in pollination activity I worked in a 2000-colony outfit which wintered in South Carolina. In April we split the colonies and reared young queens so that by the latter part of the month we could truck them north to Connecticut and Massachusetts. This type of migratory pollination requires "know-how". All colonies were single story with five frames of brood, eight frames of bees, two frames containing honey and pollen and two empty combs adjacent to the brood. The renters were clearly informed that they were not getting large colonies. **This is important** if good will is to be retained.

By means of a large fan and regular watering we moved the bees north with two trucks, one with a capacity of 450 hives, the other about 300 hives.

Needless to say, colonies with so little stores must have good weather during fruit bloom to gain weight or there will be a subsequent heavy feeding.

Strong Colonies Mean Good Wintering

While working in a large pollination apiary in New York State, I soon found out that success in getting good colonies of bees to the cherry and apple orchards required good wintering, which has been discussed **ad nauseam,** but suffice to say that a good steady goldenrod flow put the bees in optimum condition. If the weather in August and September was cold and rainy there was no "conditioning" honey flow, thus rather an "uphill drag" the following spring.

Here in the Red River Valley region bees are taken to the second-cutting alfalfa for seed production. Unlike orchard pollination where one is in a rush to get his bees out before spraying is resumed as the petals fall, in alfalfa pollination the locations are usually a quasi-permanent affair and plenty of supers can be piled on. There is no swarming problem as there is with orchard bees, which must be kept strong but still confined to a maximum of two brood chambers and no supers to facilitate speedy moving to and from the orchard.

Alfalfa Pollination Different from Fruit

In moving to alfalfa, good colonies may have several supers of honey which must be removed before they can be loaded on the truck. This necessarily irritates the bees and one must not make the mistake of trying to move the hives the same night after taking off supers of nectar and honey.

Bees taken to alfalfa in August may have to be moved on a hot sultry night as one can not always wait for cool weather. Hives moved to orchards in April almost always have cool or cold nights and also many cool days.

Good colonies moved to alfalfa are populous and especially so after being crowded down out of the supers. There is usually a considerable amount of fresh nectar in the brood nest which makes the crowded colonies more liable to suffocation if roads are rough, distance to the alfalfa is long, or the men doing the moving are not thoroughly

experienced beemen. An open entrance faced forward on the truck plus top screens are mandatory during moving.

In orchard work the bee operator is always plagued by poisoning even if it is only a transitory dysentery from sulphur compounds which also seem to affect queen mortality. I have observed this reaction for three seasons on over a total of 7000 colonies and am thoroughly convinced of its veracity. Here in the valley there is no poisoning problem, at least not where I am employed in an 8000-colony outfit.

As can be observed from the accompanying photos, alfalfa seed pollinators are more quickly utilizing the newer knowledge of bee flight activity as established in research at Cornell University, Ithaca, N. Y., and especially by Dr. Colin Butler of Rothamsted Experiment Station in England. Here the hives are placed in groups of 16 to 20 while orchard renters insist on placing the hives singly, about one to the acre.

While servicing a large 360-acre apple orchard in eastern Massachusetts, I had a very amusing experience. As the orchard was hilly and very inaccessible I took the time to explain this newer information to the owner. However, he assured me that a certain European country placed the hives singly so that there was no chance of his doing things any differently. I could have told this sycophant that that particular country only enjoyed third-rate beekeeping at best in comparison to ours but a beekeeper who rents out colonies must also be a salesman.

Rental Prices Differ

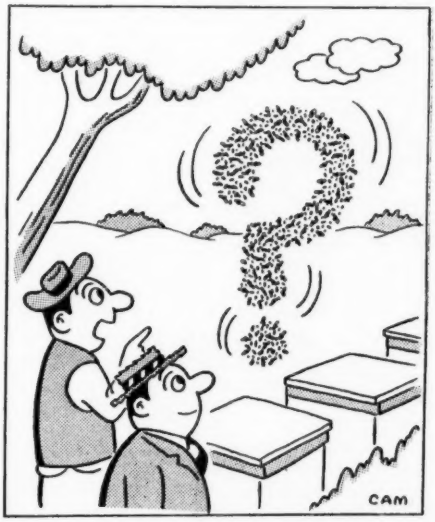
Payment for services rendered are arrived at very differently between the East and here in the mid-West. Orchardists almost invariably prefer to pay cash prices ranging from as low as $5 per colony to $10, in some instances, with a general average of $7.50. As pollination is an old established business the agreement is clear cut with little chance of a disagreement or dissatisfaction.

Here in the West and mid-West the pollination of legumes is a new business in comparison. Up to the present time payment consists of from 10 percent to 20 percent of the seed crop or a percentage of the crop that exceeds a general average. However, here, there is much chance for disagreement and failure on the farmer's part to consummate his part of the bargain. There is a general reluctance on the farmer's part to sign a written contract, although there are exceptions. Then, too, when the farmer sees the beekeeper take off a good crop of honey he thinks the beekeeper has been amply repaid. There have been cases of several bankrupt beekeepers here in the mid-West who couldn't collect their share of the seed crop and also not a few who quit in disgust because of failure on the farmer's part to live up to a verbal agreement.

After spending three years in the East with its preponderance of comparatively poor farm land the Red River Valley of the North seems exceptionally rich and fertile, very similar in fact to the better parts of the great Argentine Pampa. This is still the land of extensive bee operations.

As I have several friends in Argentina who are ardent readers of this magazine I am sure I will be permitted a few words in Spanish greetings to these beemen who also move bees to pollinate orchards and alfalfa, etc., some by the hundreds and a very few by the thousands of colonies.

Es un trabajo rigoroso la mudanza de las abejas, de veras, amigos Argentinos? Debe tomarse la con un gran ilusion de un aficionado, de acuerdo?



"That swarm seems puzzled over which hive is its."

Queen and Package Bee Production

By N. C. Jensen, Macon, Miss.

A Jensen queen yard.

There are many factors entering into both phases of this important and technical branch of apiculture. The two have a close relationship in many of the southern beekeeping businesses and, in fact, they are practically inseparable. Geographical location and the same general conditions of climate and floral distribution affect the operation and results of each much the same.

Queen rearing when properly carried on, where quality is of paramount consideration, involves utmost skill and persistence, painstaking manipulation and management, observance and performance details, neglect of which can result in inferior queens.

Good foundation stock is a prerequisite in every successful beekeeping operation, and as every queen breeder of long experience knows, improvement and maintainance of desired characteristics in bees is a slow and painful process. Selection of potential breeding queens from which daughters are to be produced, either for home use or commercial trade, should be started during the preceding season. Many of those appearing to have the desired qualities fail to measure up under tests. Queens to head drone colonies from which matings are expected should also be selected with great care, in fact, with as much critical observation as breeding queens, and with the additional caution to consider, that of crossing related lines resulting in inbreeding. Until recently far too little importance has been attached to this part of the work.

Kind of equipment used in rearing queens is not so much a factor as related to quality production except in the case of the commercial field where uniformity and speed of manipulation must be employed to the highest degree. Queen cells may be produced by a number of methods, and where the demand is for a well regulated and constant supply available every day, a system that will meet all requirements must be set up just as early in spring as colonies can be manipulated satisfactorily. Populations of cell builders (finishers) must be large, preferably just nearing the swarming strength, but yet never quite reaching that point. A good knowledge of bee behavior and colony morale is necessary in order that as near ideal conditions as possible within the hive may be maintained. Failure in the production of good queen cells is the basic cause of more of the faults that develop in poor queen performance and a degeneration of a breeder's stock than all other causes combined.

A corner of one of Jensen's queen yard.

Methods of queen-cell production vary to a certain extent even among outstanding queen breeders, but basically they are much the same, although each is conscientiously honest in his opinion that his method is the best. Locality variations can have considerable influence in making one type of equipment more suitable than another, thus necessitating somewhat different technique and methods to attain the same general results.

Most breeders use two-story colonies for cell-finishers with a queen excluder between the lower brood chamber containing the queen and the upper body with brood, honey, and cells. It is necessary to rearrange the brood combs periodically so that empty combs may be available to the queen for egg laying. This procedure is important and must be done many times in the course of a single season.

Getting queen cells properly accepted in sufficient numbers is accomplished in a number of ways, but here again the commercial producer must employ methods and skill of operations that he has learned through years of experience and trials in order to know approximately what to expect from his efforts. The closed swarm-box properly prepared with pollen combs, honey, and the right amount of young bees taken from colonies operated expressly for this work, are used by a large majority of the larger queen-rearing establishments. Facilities for carrying on the many varied operations in connection with queen-yard operation must be provided. A special house, which need not be large, where temperature can be controlled for the delicate process of transferring larvae from the comb selected into the artificially constructed queen cells, is necessary. (This is called grafting.)

Good lighting helps greatly in this work where several hundred cells have to be grafted every day. Very few larvae are injured by the skilful hand. After cells have been in the cell finishers the required number of days and are ripe, as we say, they are taken out of their incubators, handled very carefully and protected from cold in early spring or from direct sunlight in summer, and introduced into the nuclei for hatching.

Mating hives or nuclei-boxes, as they are called, may be of almost any size or design to suit the individual queen breeder. Using available standard hive equipment can, by the use of solid division boards and other adaptations, be made suitable for mating hives. But here again the commercial producer finds it highly advantageous to use special

Mr. Jensen looks over a swarm that decided home had become too crowded.

nuclei (in many cases baby nuclei) for speedier manipulation and quicker acceptance of cells after queens have been removed.

Every step involved in the rearing of queens must be conscientiously performed. Each in itself is important and it is the follow-through that will crown the efforts with success.

Management of colonies for package bees is in many respects quite similar to that employed in honey production, yet there are some notable differences. Perhaps the greatest is in the type and amount of equipment necessary in the operation of each. Special equipment necessary in one operation is unneeded and unusable in the other. Where a honey crop is the objective of course the honey-house and the extracting equipment and machinery is an integral part of the business.

On the other hand, the package-bee shipper must prepare much special equipment and supplies utterly useless in honey production. None of his work can be mechanized except his transportation. Because of the wide area his territory must cover, his truck and operational expenses are high. Because of the seasonal nature of his business (customer requirements) he has to have sufficient assistants to move a large volume of bees in the comparatively short season. If he does not get the business he has prepared for he is automatically in the red with no chance of recovery until another year rolls around.

As in honey production, young and good queens must head all colonies. There must be an ample supply of honey and reserves of pollen to carry them over periods of bad weather when it might be inconvenient to supply feed. Stimulative feeding is sometimes advantageous even if stores seem to be adequate, and immediately following the shaking of bees it is as a shot in the arm for colony recovery. It has much the same effect as a new source of nectar becoming available. Too close shaking makes subsequent shakings less productive and often does untold harm, even to loss of the colonies.

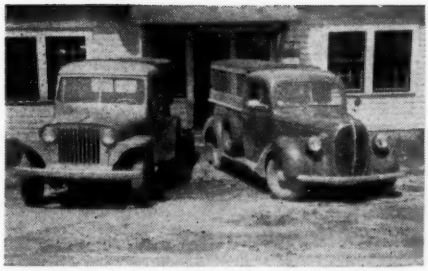
Methods of getting bees into packages differ to a certain extent and there is some argument pro and con as to the quickest and best way to do it. Most all shippers have worked out systems to which they adhere because it works for them. One of the important things to consider in any system is the weather conditions under which the work is

done. Warm sunny days when the older or field bees are out in good numbers is the ideal time, but it cannot always be just as we would have it.

When nectar is coming in freely other difficulties can and do arise. Funnels get all stuck up as do the bees and they will not slide into the packages. Weighing becomes so unsatisfactory that measuring sometimes has to be resorted to in order that reasonable uniformity and ample weight of bees will be given to satisfy the customers when the bees reach destination.

Prompt delivery is now important when packages have been filled and provisioned. Customers should be advised by wire when shipments go forward so they can make arrangements to get the packages installed promptly upon arrival.

From this point the success or failure of package bees becomes largely a customer problem. If he will give the same degree of diligent attention to them that the shipper exercised at his end of the line, provide the normal essentials, and use reasonably orthodox management, the entire transaction should prove satisfactory to all parties concerned and result in good business relations.



Jensen's shop and pick-up trucks.

Passing of Lewis W. Parks

Our industry suffered a distinct loss in the passing of Lewis W. Parks, age 70, at his home in Watertown, Wisconsin, January 21, following an illness in 1948 which caused him to retire from active business life.

Mr. Parks was born in Watertown, attended the public schools and later, secured a B. S. degree in commerce in 1904 from the University of Wisconsin. He joined the G. B. Lewis Company in 1905 and became President of the Company in 1938.

Mr. Parks was one of the founders and chairman of the Board of Directors of The American Honey Institute, Madison, Wisconsin. The Institute grew under his able leadership. (See page 175.)

"Lew", as he was called by many who knew him best, had a host of friends everywhere. He was interested in people, also projects that helped to make his community a better place in which to live. He was a charter member of the Watertown Rotary Club, also one of its past presidents.

Mr. Parks enjoyed his home life and found relaxation from his business in reading and music. He was a violinist and played with the symphony orchestra of Watertown, also was a member of a male chorus, as well as the choir of the Congregational Church of which he was a member.

With all his other interests Mr. Parks found time for civic and community work, chief of which was the Boy Scout movement.

Lewis W. Parks

Surviving Mr. Parks are his wife, one son, Steven C. Parks, a daughter, Mrs. Catherine Parks Baumgardner, a sister Olive, and four grand children.

Friends of Mr. Parks will always remember him as a man of honor and integrity who was genuine and friendly. He will be missed greatly by his family and his friends in the industry.

How You Gonna Feed 'Em?

By H. R. Swisher, Springfield, Ohio

Five pounds of sugar feed

Every year, we hope no feeding will be necessary. It never works out though, so by late winter or early spring check-up, we all know we are going to find some colonies that need help.

This method is not my own, but one that appeared in this magazine some few years ago. The idea looked good when I read it, so I have used it ever since.

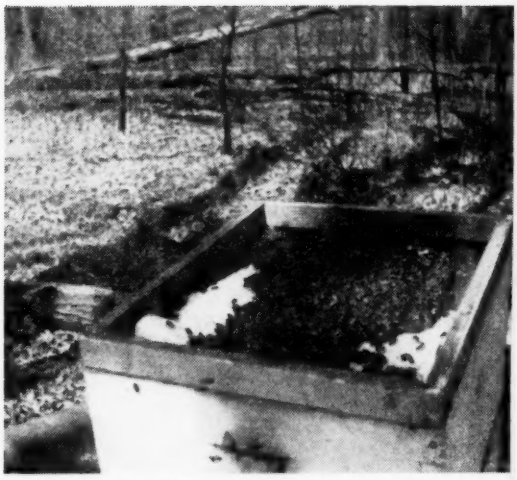
The gadget, if it may be called one, is easy to make and takes only four nails to assemble. My rims are cut 1¼ inches in depth and hold five pounds of dry sugar very handily. To make it easier still, I buy my sugar in the 60-pound bale of five-pound sacks. I bought some 100-pound sacks one time and believe me it cost more in time than the additional amount the sugar cost in the five-pound sacks all ready to use. With a supply of sugar, rims, and newspaper along any one can immediately solve the feeding problem wherever found, quickly, economically, and efficiently.

Clear the tops of the frames of bees with a few gentle puffs of smoke, if necessary, and remove the propolis and burr comb directly over the cluster. This allows the paper to fit closely to the tops of the frames at the top of the cluster. Then use a single piece of newspaper, holding it in place with the rim as shown. Next, make a small

After one day

After three days

After seven days



After ten days

break in the paper immediately over the cluster, pour your sugar on, level out, replace the inner cover and the outer cover. As I remember, the colonies shown in the pictures ran around six frames of bees when the sugar was given. A heavy colony will take five pounds of sugar in four or five days if conditions permit.

I have poured syrup over combs, made sugar candy, used pails of syrup, put dry sugar on the bottom boards, on the inner cover, and other methods as well. None of them give the fine results of this method described. First, the feed is located in the proper place at the top of the cluster. Second, whatever little moisture is needed can readily be found inside the hive. Third, the colony morale seems to be encouraged, as they take hold and build right up. In my locations fall aster and goldenrod supply more pollen usually than nectar, and sufficient pollen is available. If pollen reserves are light, artificial pollen cakes should be given with the dry sugar. Try to get the rims removed as soon as nectar starts to come in or comb will be built in between the frames and the inner cover. Any one carefully following this method will find the results very gratifying.

Peppermint Method of Introducing Queen

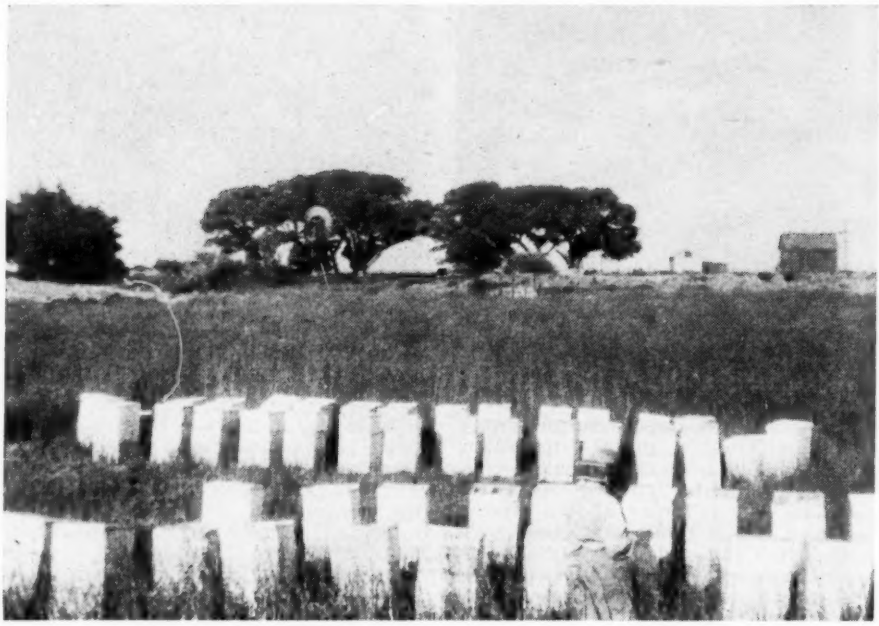
By Geo. G. Stauffer, Dunnville, Ontario

On page 729 December 1951, this magazine, Propolis Pete wants to know how to make the new queen smell like the old one. Well, after reading a couple of years back how some one in England did this—spray them with peppermint water—I thought I could improve upon this quite a bit, make it more lasting and more acceptable all around. Make a very light syrup and put in sufficient peppermint to give a good strong smell. It takes only a few drops. I use about two parts warm water to one part sugar, and use a new clean insect sprayer. I keep one especially for this purpose. Spray the mailing cage, both the new queen and the attendants. Spray all the tops of the frames and all of the bees on the tops of the frames and down between them, too. Turn the queen loose and watch the new queen and bees wash each other, if she does not disappear down between the frames. I have very good success with this method.

[The peppermint method has been used by some beekeepers with success.—Ed.]

From the Apiary Note Book

By Clarence Tontz, Elsinore, Calif.



Rain is not needed, nor wanted, on the irrigated alfalfa range during the haying season. But for the beekeeper irrigated crops do not produce enough honey.

The possibilities for a tremendous honey crop this year in California look good. During the past few drouth years a very small percentage of our state's crop was produced from unirrigated plants, such as the mountain sages, wild buckwheat, blue curls, and the numerous wild flowers. Yet the total honey crop each year has been relatively high. This has been due to increased plantings of alfalfa and cotton—both of which yielded good honey crops in '51. But now to supplement the honey crops from the irrigated plants it appears that our long dormant wild plants are going to be put back to work by the abundant rains that we are currently being blessed with. Thus far some sections here in the southern part of the state have gotten as much as 13 inches of moisture (Jan. 18) and this is when the rainy season is normally getting started. Twelve to 13 inches of rain is enough to make at least a partial honey crop, but the average beekeeper moving a load of bees to the mountains for the sage and wild buckwheat will feel a lot better with 16 to 22 inches of rain in the ground.

During the past few years hundreds of thousands of acres of the mountain ranges of Southern California have been burned off. An old-time beekeeper recently told me that these burned-off areas, when soaked up by good winter rains, develop into some really good sage locations. Now they are getting soaked and I am going to watch them closely to see what develops.

While a wet winter is highly pleasing to California beekeepers, we should remember that our bees may be subjected to more than the usual amount of bad late winter and spring weather and may starve, or at least be so run down that they can't take advantage of a good honey flow. I have found that they do a pretty good job of bringing in the needed pollen even though on some days they have to call it quits after an hour's work. The California beekeeper, especially after a wet winter, is sure to get some kind of a

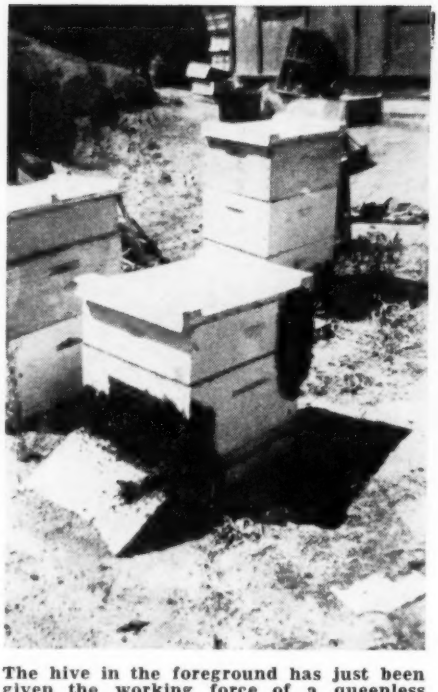
Many of the out-apiaries in the West are on a slope. A hole for one or both truck wheels (on the high side) levels out your truck bed for easy, safe loading of bees or honey.

An empty hive won't make you any money. Fix 'em up and get some bees in them.

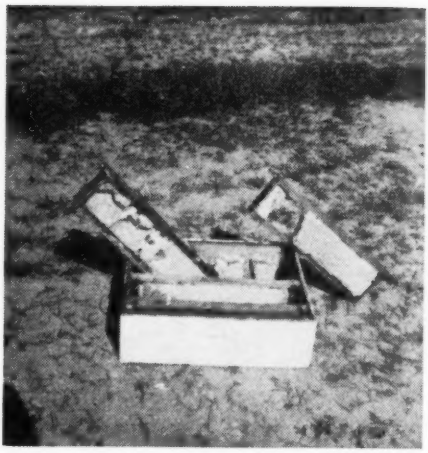
honey crop and maybe a big one at that; and the best investment he can make is to insure that his bees have plenty of honey or sugar syrup. Some of the Western beekeepers cut down on their sugar bill by moving their bees to the eucalyptus from November to March. Still others take their bees to the avocado groves. Honey from both of these sources is classed as an industrial grade. I recently talked a bit with Milton Knoefler, commercial beekeeper from nearby Arlington, who is enthusiastic about the avocado as a build-up for his bees. They are left there until just before the orange flow.

With a wet winter bringing out many miscellaneous wild flowers that many of us newcomers have never seen before, it makes it much more interesting (and practical also) if we are able to identify the various blossoms that we see a bee working on. I have an old edition of a book on North American honey plants and have consulted it many times to identify a honey or pollen plant or to find out something about the quality and color of the honey that is gathered from a certain plant

In California back-lot beekeeping abounds in cities as well as in the rural areas.



The hive in the foreground has just been given the working force of a queenless colony just as the honey flow was beginning.



When preparing your shallow frames with sheets of foundation make sure the foundation is fastened all along the top bar or the weight of the bees as they cluster to draw it out will pull down part of the sheet and you will have combs as shown.

Black or button sage. This should be the year for it in California.

in the hills or in the desert. What I particularly like about this book is the abundance of clear photos of the different blossoms. One picture is truly worth a thousand words, and more so when a beekeeper wants to identify a honey plant.

Since I first came to California around ten years ago I had heard of the high quality of blue curls (**Trichostema lanceolatum**), also known by the common names of vinegar weed, camphor, turpentine, and flea weed. We haven't heretofore had enough winter rain to enable this plant to yield much honey and so I have never tasted any. According to reports the honey is very white and granulates quickly with a fine grain. A good many of our customers would like this quality as we have frequent requests for smooth, naturally-granulated honey. The flow from blue curls runs from August until it is nipped by frost. This plant abounds over California and I am hoping that we have enough moisture for at least a sample this fall.

Another honey plant that I had long heard much about and whose honey I was highly interested in sampling, is fireweed (**Epilobium angustifolium**). Here on the west coast it is produced in Oregon and Washington. Last summer a beekeeper friend went up to Washington to run bees and I put in a re-

Dispelling fog from the citrus areas so that the bees can go to work from one to four hours earlier some morning should greatly increase the honey yields.

quest for several hundred pounds of fancy fireweed honey for retailing. This fall he dropped by in his pick-up with the honey. I could hardly wait to open one of the 60-pound cans and dig my finger into the granulated honey. True to its description it is extremely white (just plain colorless) and its flavor is truly exquisite. Don't ask me if it is better than black sage or orange blossom or clover. Each of these fine honeys is in a class by itself. Each is different. Each is delicious. To say one is better than the other is the talk of a novice and a good spark for an argument which will still not settle anything.

At any rate, I always get a kick out of inspecting and sampling a new kind of honey and if I can get several hundred pounds of a certain kind I have a new set of labels printed and add it to the varied honey stock in our highway store. We now retail the following kinds: Orange blossom, sage, desert mesquite, star thistle, California alfalfa, Wyoming clover, wild flower, and fireweed. We pack our honey in six different size containers and make up gift packs that particularly appeal to tourists. Our wide variety has increased our honey sales, the customer is happier, and we are having lots of fun.

An Unusual Hive

By Prof. Harvey B. Lovell, Louisville, Ky.
Biology Department, University of Louisville

Although some winter brood is usual in Kentucky, one hive with 60 square inches of brood has a very interesting story. Fred Miller, Bee Inspector from Louisville, was asked about the middle of November to rescue a late swarm in a crate. Mr. Miller brought swarm, crate and all to his home and pulled out the queen. The bees he added to one of his own hives.

A local dentist had a hive with laying workers. To get rid of them, he took the hive 150 feet away from its platform, tore it all apart, and shook off all the bees. Then he returned the parts one by one to the original stand, making sure that there was not a single bee left anywhere on the frames or other parts. After the hive was reassembled, he introduced the queen (from the swarm in the crate) between two frames of brood in the middle of the brood chamber. In this way it is usually possible to get rid of laying workers as it is believed that they do not fly, but merely crawl around at random and are not apt to refind their hive.

And so it was in this case. The laying workers did not reappear. The new queen was accepted and immediately started laying eggs. And this is the unusual story of the hive that had 60 square inches of capped brood on the 4th day of December.

[This method of losing laying workers has been used and advocated for some years. It usually works.—Ed.]

Reflections of an Amateur Apiarist

By George H. Latham, Wilmington, Delaware

[Article written in early December, 1950.—Ed.]

The season is over so far as active beekeeping is concerned. The hives of my little apiary of 12 colonies stand cold and stark against their windbreak of young pines. No bees make the air musical with their drowsy humming, there is no hushed murmur in the apiary at night of bees ripening their honey. The last hive has been examined, the last entrance contracted, the last super stored away. The bees have sufficient stores for the long winter; everything is shipshape. And as I reluctantly turn away, I think back over the year, over all the years that are fading into the past with its memories, and a vague melancholy comes over me — a feeling

"That is not akin to pain,
And resembles sorrow only
As the mist resembles rain"

The little state of Delaware compensates her beekeepers for relatively poor honey flows with mild winters. Wintering is a simple matter. Nobody packs bees, or makes any special preparations for winter beyond adequate stores and protection from winds. I used to wrap my hives with black tar paper, and one of them (my first) is a double-walled, chaff-packed "Buckeye" hive. However, I have never found any evidence that bees do any better in this hive or in the wrapped hives than in single-walled hives just as they were in summer (except for contracted entrances). Nor have I found much advantage in wintering in two-story (brood chamber) hives rather than in single-story ones. In the spring I usually find the bees all in the upper story, and they seldom raise brood or store honey below before I remove the lower story and put a super above for surplus, about the middle of May. Often when I am short of hive bodies, I use an empty one from a two-story colony to hive a swarm (which perhaps may have come from that very colony). Often such a swarm will fill a comb honey super with surplus before my old ones will.

I do not make any special effort to make a lot of surplus from our spring honey flow, which comes from tulip poplar, with some locust and a little clover, about May 15 to June 15, for the honey is dark and does not sell well. One customer returned 12 pounds of it to me this fall, complaining that "it doesn't taste like honey". I gave him some of our beautiful golden Spanish needle honey instead. He liked that. I know a few people who like the dark honey better, and a roadside market sells a good deal of it for me during the year. Personally, I much prefer the lighter-colored honey.

It is surprising how little honey, and what weak colonies, will suffice for survival during our Delaware winters. During the autumn honey flow of 1949, I had two weak colonies, each with a good queen I wanted to save, neither with as much as two combs of honey and brood and with no more than a pint of bees each. I put one on top of the other with two queen excluders between them to keep both queens and let the bees build up enough to make one colony. For some reason they failed to build up, but in October both queens were laying as vigorously as their small colonies would permit. Because of untimely cold weather and lack of time, I left them as they were all winter. Imagine my surprise last March to find the bees still alive, all in the upper story with one vigorous queen — a compact, efficient little community with a frame or two of brood and rapidly expanding. (Did the bees desert the queen in the lower story during the winter?) Later, this hardy little colony developed full strength, swarmed, and produced as much surplus honey as any hive I had, and more than most of them. Yet by all the rules these two tiny half-combined colonies should never have survived the winter. They must have had an unusually good queen. I wonder whether such queens should be used for breeding.

I also observed another interesting experiment this year. In August, three of us amateur beekeepers with a total of about 30 colonies, moved them as usual ten miles from our homes for the autumn Spanish needle honey flow. (We thus qualify in a modest way as migratory beekeepers.) We divided the colonies into four groups of approximately the same number of hives and strength, locating them several miles apart in

apparently equally promising areas (all having an abundance of Spanish needle blossom). Our idea was to see which location would be best for next year. Though it was not deliberately planned that way, two of the little apiaries were in open fields where they were in sunshine (if any) all day long, while the other two were in the shade until about ten o'clock in the morning and again after about four o'clock in the afternoon. Now, it so happened that during the honey flow the weather was unusually cool and rainy and the flow itself was unusually short (about three weeks instead of the usual month). A very poor yield of both comb and extracted honey resulted, but (1) the yield from the "sunny" apiaries was much better than that from the "shaded" colonies, (2) the comb honey was better capped over than the extracted honey, and (3) shallow supers were better filled than full-depth ones (all containing good drawn-out combs from previous years). Evidently shade during a substantial part of the day is not so good for a honey flow in cool weather. It also appears that for short and uncertain honey flows shallow rather than full-depth supers should be used. Apparently, bees cap over small combs better than large ones when conditions are unfavorable. I intend to use only shallow extracting supers in future, not only because of this year's experience, but because they are lighter to handle and the frames easier to uncap.

I produce both comb and extracted honey because some of my customers like one kind, others another, and also because we use a lot of extracted honey ourselves. Personally, I like comb honey better, not only because of ease of handling (no messy extracting, bottling, etc.), but also because it tastes more like honey. Try some on hot biscuits some cold, stormy night when you're safe and snug in your home (and the bees in their hives), and you'll see what I mean. But extracted honey is admittedly more convenient for cooking and using on cereals, hot cakes, etc. However, I tell people they can easily convert comb to extracted honey by heating the comb in a double boiler until the wax melts, then cooling and lifting the wax off the surface of the liquid honey. My wife does this frequently.

Speaking of extracted honey, an easy way to clean up the extractor after use is to set it outdoors and let the bees do the job. After a day or two it will be clean and nice except for a few cappings.

And speaking of honey, I sell all I produce locally, and there is an undeveloped market for much more Spanish needle or clover honey. It is easier to sell comb than extracted honey here. Most groceries will handle a good grade of section comb honey if you ask them, but usually have commercial brands of bottled honey on hand. However, most of my honey goes to customers who buy it a few pounds at a time. Our Spanish needle honey has achieved quite a reputation here. In the comb it is nearly or quite the equal of the best white clover in color and flavor, but when cut is more attractive in appearance, the sparkling golden honey contrasting appetizingly with the white comb. The extracted honey is clear golden in color and very viscous, and I have never known it to candy. We use it every morning on oatmeal and other cereals, and we make "vanilla ice cream honey sundaes" with it. My wife uses it for baking hams (instead of brown sugar), and makes delicious hot cross buns with it. She has just made a fruit cake with the dark tulip-poplar-locust honey (which is excellent for all kinds of cooking). Our three-year old baby boy, a husky, happy little fellow, loves honey and uses it every day. We give a lot of honey each year for birthdays, Christmas, and other times.

I have found that a mixture of honey and whisky is an excellent thing for coughs. A spoonful of honey itself seems to be helpful for such bronchial ailments. Last winter I asked a druggist in Saratoga Springs, New York, for a good cough medicine. In our discussion of the best remedies, he volunteered the suggestion that some honey was about the best thing one could use. In connection with the use of honey for medicinal purposes this interesting experience was mine this fall. A man bought some honey from me, saying someone had told him a mixture of honey and corn meal (or corn bread) was good for gall bladder trouble. I told him I doubted it, but asked him to tell me how the idea worked out. I have seen him several times since (several months) and he says he has not been bother-

ed any since he has been using the honey. It might be a coincidence, or autosuggestion.

Although my bees are a self- supporting hobby and their honey is a palatable and useful part of our daily diet, there are more intangible benefits which are, I believe, more valuable to us. For example, the work itself is conducive to relaxation of body and mind. One works with the bees mostly in warm, sunshiny weather, necessarily outdoors. One learns to work around them calmly and deliberately, without jerkiness or undue haste. This lesson is valuable in other work one does. Nailing new hives and supers, frames and fixtures, repainting, making new hive stands, folding sections and putting foundation in them on winter nights, is also relaxation and enjoyment of beekeeping activity even in cold weather. To me it is a pleasure; to large-scale beekeepers it must be quite a chore. I like to fit the wooden parts of hives and fixtures together; they are beautifully made, the wood smells fresh and fragrant, the foundation is a work of art in itself and suggests honeycomb, and as I work I can think and plan the interesting things I hope to do with the bees during the coming season—which, of course, is always going to be the best ever. Who doesn't like to "daydream" sometimes?

Then, as another form of relaxation and pleasure connected with beekeeping, we have the bee journals. They are pleasant reading. Aside from the useful and interesting information one gets from them, there is much pleasure and relaxation in turning the pages, with their atmosphere of bees and beekeeping. All these things rest me, keep me more healthy and more fit for my daily work as a research chemist. I have loved nature all my life, and something in my being has always responded happily to the drowsy humming of bees on fruit blossoms or locusts, and to their activities around their hives — and every first exquisite taste of honey brings memories of early boyhood when I began to keep bees.

"There was a time when meadow,
grove, and stream,
The earth, and every common
sight,
To me did seem
Apparelled in celestial light,
The glory and the freshness of a
dream."

Love of nature is something one is born with, or without; it cannot be acquired. I believe emotions in general are instinctive—either you have them or you do not, and there's not much you can do about them either way.

As I mentioned before, I am an amateur beekeeper. Being one has its advantages and disadvantages over commercial beekeeping. One of the advantages is, we amateurs have more time to enjoy bees, more relaxation in our work with them, and more time to putter around and experiment with them. For example, I doubt whether any commercial apiarist would find time or pleasure in keeping Italians, Caucasians, and Carniolans side by side, as I do in my small apiary. I would like to test eight-frame hives for comb honey, if I can find any. I have an idea they might be better for this locality, where honey flows are short, and they would be easier to handle when we move the bees for Spanish needle honey in August. I had great success with these small hives when I was a boy. I also want to experiment with comb honey in tiny sections about two inches square, to supply a quality hotel and restaurant trade for comb honey for individual service. And in 1952 I am planning to keep some bees in other localities where white clover is abundant (it is of little importance as a source of surplus in my neighborhood, especially as what little clover honey the bees store is mixed with dark honey gathered at the same time).

But we amateurs have our disadvantages, too. Those of us who have regular office jobs, for instance, often fail to get things done at the right time because we cannot take time off to work with the bees. Often in spring, summer, and autumn we have ideal days to do certain jobs that should be done, when we are miles away at work. Too often on week-ends when we are home, the weather is unfavorable.

Speaking of Italians, Caucasians, and Carniolans all together in one apiary, I have noticed that while all three races are gentle and easy to handle when they are kept from cross-breeding, some of their hybrids are as cross as any bees I ever saw. When I was a boy, I had some cross hybrids and black bees, but some of my present hybrids are the worst I ever handled. As long as they were pure-bred, I handled my bees with-

out veil or gloves, as a rule, but when I have these cross hybrids in the bee yard, I have to use veil, gloves, and sometimes heavy clothing (for they will sting right through an ordinary shirt or pair of trousers). Even when I am working with gentle colonies, the cross hybrids from other hives make it necessary to wear at least a veil. I make it a rule to requeen the cross colonies as soon as possible, no matter how good the queens (and it is quite often true that those cross ones are also the most vigorous and productive colonies I have). It is doubtless true that bees from the same queen get crosser as the colony gets stronger and more prosperous. I believe that very cross colonies can best be requeened in the early spring, when there are fewer bees and they are not quite so "ornery" and sure of themselves.

While I am on the subject of cross bees, I want to tell one thing I saw two summers ago which I think is the ultimate in that respect. Hiving a big swarm which had settled on the trunk of a young apple tree, I was having tough going dipping and brushing them off and getting stung even with gloves on, for these fellows were exceedingly cross for some reason. Looking up, I saw a bluebird (they nest in a box near the tree) being chased by a bee! No doubt of it; I followed their flight, scarcely believing my eyes, for about 50 yards. I doubt whether the bird knew it was being chased, though the bee was only a few inches behind. It was not gaining ground, as far as I could see. Reminded me of a crow being chased by a bee martin (kingbird).

As I write these lines, the world stands in danger of a third world war, and the President has just declared a state of emergency. If we should be so unfortunate as to have another war on our hands, I suppose that the same sort of controls, rationing, and need for maximum food production will prevail. During World War II there was a considerable interest in bees around here, and no doubt elsewhere, partly because of the sugar rationing. Professional men, women, Boy Scouts, a number of my friends, wanted to know how to start keeping bees, and I started a considerable number of them off every year during the war years. None of them have regretted it or lost interest in their little co-workers who helped win the war by the honey and wax they produced so industriously in Delaware's summer air. Several of these people are the most enthusiastic beekeepers I have known personally. I believe they love their bees much as A. I. Root, G. M. Doolittle, Dr. C. C. Miller and others of that grand old group I knew as a boy from their writings in the bee journals did. (Incidentally, the bee journals should exert themselves to maintain that wonderful happy "atmosphere" of tranquil living and beekeeping which emanated from their pages in those days. To feel it and be inspired by it, one has only to look over, say, "Gleanings" back in the pre-World-War I days, or Doolittle's "A Year's Work in An Out-Apiary", published in 1910. Those enthusiastic, successful, kindly men who loved their bees and loved to work with them and write about them, and some of the people I know today, inspire me with confidence that the time will come when, as Kipling says,

"No one shall work for money,
and no one shall work for fame;
But each for the joy of the working, and each in his separate star,
Shall paint the thing as he sees it,
For the God of things as they are".

How to Prevent Robbing When Using the Boardman Feeder

By Harold Nawrocki

Perhaps you've observed how often the sugar syrup seeps out at the jar lid when using Boardman feeders. Robbing may start, and whole colonies may be cleaned out. Prof. E. J. Anderson of the Pennsylvania State College, has devised an effective method for preventing this. He mixes beeswax and petroleum jelly in equal proportions and applies this mixture to the inside of the jar lid. This effectively stops the syrup from leaking at the jar lid, nor do the bees attempt to remove the mixture.

State College, Pa.

The National Meeting at Dallas

A view of the crowd listening to one of the many speakers.

The National Meeting in Dallas, Texas, proved to be one of the most worthwhile in recent years in bringing into focus (1) the problems affecting the industry, (2) what is already being done by existing industry organizations to bring a solution, and (3) pointing up methods of attacking the remaining ones. The meeting which this year was attended by more than 300 members of the industry has served as a clearing house for information and opinions and at the same time has served to correlate the efforts of all groups.

The sale of honey at a satisfactory price to the producer has long plagued the honey industry and attempts have been made each year to start a more complete program of merchandising the world's most delicious sweet—honey. Accordingly, one of the high lights of the meeting was the presentations by two advertising and promotion firms. At the Friday morning meeting a large attentive audience was on hand to hear these presentations. Mr. Marcellus of the Marcellus Advertising Company outlined a program undertaken by Cherry Producers. This had resulted in the sale each year of the entire crop at livable prices to the producers and packers alike. The program as outlined consisted of a substantial budget of paid advertising space coupled with free advertising in cooperation with the Pastry Flour Manufacturers, as well as allied industries. This advertising is tied in with store displays and counter cards. The advertising is carefully planned to have the stores have the merchandise along with displays and advertising material so that when the advertising is actually released stocks are on hand at the retail level to properly capitalize on the publicity. Consumer surveys are made from time to time to keep the program going in the proper direction. Contact is made with food editors and the home economists of the large food corporations.

The second presentation was made by George M. Decker of the F. H. Faber Advertising Company. He stressed cooperative advertising such as has been used effectively by some of the larger honey packers recently. He called attention to the fact that honey is always eaten with some other item of food rather than eaten by itself and for this reason lends itself well to cooperative type of advertising.

Mrs. Harriett Grace of the American Honey Institute of Madison, Wisconsin, came on the program Friday afternoon. Her talk was directed almost exclusively to a discussion of the work she is doing in keeping in constant contact with the many food editors over the country and the home economists of large food cooperations and allied industries. These corporations maintain

large testing laboratories in which all food recipes are tested including those put out by the American Honey Institute. These honey recipes are thoroughly tested before being released to the public. In addition she presented a great number of colored slides showing the thousands of dollars' worth of publicity given to honey by the makers of allied products. This along with publicity given by the food editors in papers and magazines over the country amount to an outstanding volume of publicity for honey. It was apparent to all that Mrs. Grace's work, as far as her limited budget permitted, was very similar to that proposed by the two advertising companies, the exception being that the much larger budget proposed under these plans included paid advertising and greater point of sales promotional work.

Along this line, in order to avoid duplication of activity, the Boards of both the Federation and the American Honey Institute met and decided the scope of activity on the part of both organizations. It was decided that the American Honey Institute would continue the promotion of honey uses through the cooperation of the larger allied industries, food editors, and home economists, and would carry on a limited paid advertising program in professional journals to reach the medical fraternity and home economists. The American Beekeeping Federation would concentrate on the point of sale merchandising, market surveys and, if funds permitted, paid consumer honey advertising. A Board was set up consisting of three members from the Executive Committee of the Federation and three members of the Executive Committee of the American Honey Institute to correlate the work of each organization and prevent an overlapping of activity. As Vice-president Langley of the Federation so aptly put it in the joint meeting between the two boards, it is important to keep each horse pulling the load on the evener so that the pull would be equal and the load would move forward smoothly.

The improved financial condition of the Federation with its 1951 income about $10,000 over the previous year, left all the 1950 and 1951 bills paid and a little surplus to start the new year. A budget for 1952 was adopted of $100,000, with $25,000 to be used in support and administration of the general Federation program and $75,000 to be used for the advertising and promotion of honey. Glen Gibson of Minco, Oklahoma, was elected president of the American Beekeeping Federation replacing N. C. Jensen. Clarence G. Langley of Red Wing, Minnesota, was elected vice-president. The new Board of Directors appointed the Executive Committee of the Federation as follows: Glen Gibson, Clarence Langley, Howard Graff, Howard Foster, Henry Schaefer, Charles Hansen, E. H. Adee, N. C. Jensen ex-officio member. Glenn Jones was reappointed Secretary-Treasurer. Also Edward Wolfe was rehired as an assistant.

In the other organization Barney Remer of Sioux City, Iowa, was elected President of the American Honey Institute, Stephen Park, of Watertown, Wisconsin, Vice-president. The Executive Committee consists of Remer, Parks, and M. J. Deyell.

The Bee Industries Association, an organization of bee supply manufacturers, elected Gordon Frater of Watertown, Wisconsin, President, replacing Alan Root of Medina, Ohio; Frank Swanson of Council Bluffs, Iowa, Secretary, replacing Robert Dadant, and Baxter Woodman of Grand Rapids, Michigan, Treasurer. While it would be impossible to list the proceedings of all of the meetings, the meeting of the Apiary Inspectors, Honey Packers, and Ladies' Auxiliary contributed much to the meeting.

Bids for next year's convention came from California and Omaha, Nebraska. The final decision rests with the Executive Committee.

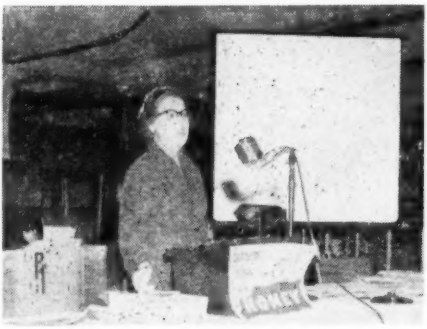
The resolutions adopted by the General Sessions are in brief as follows:

Resolution 1: The Federation seriously and urgently requests a minimum support level of 75% of parity to the producer for honey in bulk containers and that a purchase agreement and loan program be established applicable to 1952 and subsequent marketing seasons, also that on the farm loans for needed warehouse facilities be made available to qualified producers.

Resolution 2: Resolved that packers and dealers participating in the export and diversion subsidy program be required by government regulation to pay the support level for all honey purchased by them from producers.

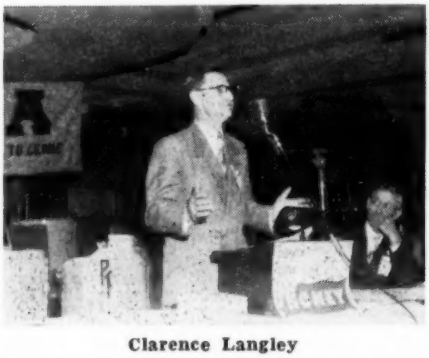
Resolution 4: That the Federation exert every effort to obtain increased federal appropriation for research on pollination and problems pertaining to pollination and that a copy of the resolution be sent to the Seed Advisory Committee, the Ameri-

Glen Gibson



Mrs. Harriett M. Grace

George M. Decker



Clarence Langley

can Seed Association, and to the Cotton Research Council and that their cooperation be solicited to obtain the necessary funds for research which will not only assist the beekeeping industry but also will materially increase production of the crops in which they are interested.

Resolution 5: Resolved that recognition of thanks be extended to the Oklahoma State Beekeepers' Association, the Ardmore Chamber of Commerce and the Samuel Roberts Noble Foundation for their outstanding contribution to the success of the Ardmore Pollination Conference and that special recognition be given to Lyman E. Coe and other members of the staff of the Samuel Roberts Noble Foundation.

Resolution 6: Asks that the Finance Committee be relieved of the task of attempting to audit the books at the National Meeting and that the Executive Committee of the American Beekeeping Federation employ a competent accountant for a complete audit of the books and records of the American Beekeeping Federation.

Resolution 8: The "500" Club of the American Beekeeping Federation requests that the Federation ask Congress to appropriate funds in the amount of $75,000 for research on Nosema apis and other bee diseases to find cures or controls.

Resolution 9: Was presented by the Apiary Inspectors of America that this organization seek to have established research programs to study the causes, biology, and control of European Foulbrood and Nosema disease, the support for these programs to be solicited through the agency of Research and Marketing funds of the USDA; the establishment of the research work to be placed with recognized research agencies.

Resolution 10: That the United States Post Office Department be asked to make a commemorative stamp, preferably a 3c stamp, bearing the picture of an appropriate motto honoring Rev. L. L. Langstroth the inventor of the movable frame hive.

Resolution 11: Asks that the Federation promote definite plans through the state organization urging them to put into effect marketing agreements, taxes on bees, or any other method available, equivalent to 5c per can or 5c per colony that will constantly and continually raise the necessary moneys to carry on the necessary promotional work to sell honey and that such plans should be devised that the free movement of honey within the states will not be retarded provided such honey meets United States Food and Drug and United States Department of Agriculture requirements and that the major portion of such funds should be pooled together so as to carry on a national campaign for all honey.

Resolution 13: Asks that the Federation use its influence to obtain reduced freight rates on both granulated and liquid honey.

Resolution 14: Extends appreciation to the Texas Beekeepers' Association and the Dallas County Beekeepers' Association and to the many individuals who contributed to the success of the 1952 Annual Meeting in Dallas.

Resolutions 16 and 17: Expresses appreciation to Dr. E. F. Phillips and Frank C. Pellett, George W. Bohne and E. Elmer Carroll for the work these men have done in their respective fields of endeavor for the advancement of the beekeeping industry.

Resolution 19: Asks that a copy of these resolutions be forwarded to the national office of the American Farm Bureau Federation.

Bake with Pleasure—Serve with Pride

By Mrs. Benj. Nielsen Aurora, Nebraska

Ginger bread with honey - orange - raisin sauce. —Photo Courtesy Kellogg Co.

With orange concentrate in the freezing unit and a well-filled honey jar there's never any need to worry about menu blues, or wonder what to have when unexpected guests drop in and you simply "haven't a thing to serve." Just open a can of that frozen orange juice, add three cans of water, bring the honey jar within working range, and we're off!

Honey and this orange juice concentrate are a grand team. The orange juice, honey, and cereal ingredients in the recipes chosen for this month make a health and energy-giving trio hard to beat. From breads to sauces, orange juice and honey combine to make goodies you will bake with pleasure and serve with pride.

Gingerbread with Honey-Orange-Raisin Sauce

One cup sifted flour, ½ teaspoon baking powder, ½ teaspoon soda, ½ teaspoon salt, ¼ cup sugar, ½ teaspoon cinnamon, ½ teaspoon ginger, ¼ teaspoon cloves, ⅛ teaspoon nutmeg, ½ cup ready to eat bran, ¼ cup shortening, ½ cup water, ⅓ cup honey, and 1 egg.

Sift flour, baking powder, soda, salt, sugar, and spices into mixing bowl, add bran and shortening. Add ¼ cup water, honey, and egg; beat until smooth. Scrape bowl and spoon frequently throughout mixing process. Add remaining water and beat 100 strokes. Pour into greased cake pan (8x8). Bake in preheated moderate oven, 350 degrees F., about 25 minutes. Serve with

Honey-Orange-Raisin Sauce

Two tablespoons cornstarch, ¼ cup honey, 1 cup orange juice, ½ cup raisins (optional).

Blend cornstarch and honey. Stir in orange juice. Cook over low heat until mixture thickens, stirring frequently. Add raisins, if desired. Continue cooking until sauce is clear, about 5 minutes. Serve hot.

Honey Orange Bread

Two tablespoons shortening, 1 cup honey, 1 egg, 2½ cups sifted flour, 2½ teaspoons baking powder, ½ teaspoon soda, ½ teaspoon salt, ¾ cup orange juice, and 1 cup bran.

Blend shortening and honey; add egg and beat well. Sift flour with baking powder, soda, and salt and add to first mixture alternately with orange juice. Add bran. Pour into greased loaf pan and bake in slow oven 325 degrees F., for 1 hour and 10 minutes. Yield: 1 loaf (5¼ x 9⅓-inch pan).

Honey Grape-Nuts Orange Muffins

Four tablespoons shortening, ¼ cup honey, 2 well-beaten eggs, 2 cups sifted flour, ½ teaspoon salt, ½ teaspoon soda, 1 cup orange juice, and 1 cup grape-nuts.

Cream shortening and honey; add eggs and beat well. Add flour, sifted with salt and soda, alternately with orange juice. Stir in grape-nuts. Fill greased muffin pans two-thirds full and bake in moderately hot oven 400 degrees F., 20 to 25 minutes. Makes 15 muffins.

Live and Learn

By Propolis Pete

Back last January, we had a nice warm day. One of those days when you think of April, pussy willows, flats full of annuals, and flying bees. So I went up to my bench in front of the row of hives to do a little day dreaming.

The bees were having a glorious flight. It sounded like rain on the dead leaves that surround the colonies. I heard a familiar distinctive buzz that I should not have heard until the middle of May at the earliest. Says I to myself, "That sounds like drones". Walking over towards the sound, I saw that it was true. One of the hives had drones along with the workers, coming out to play in the warm sunshine.

Now, where did they come from? Were they hold-overs, or was the queen laying heavily, and laying drones, too? I could have found out by looking, since it was such a nice warm day. But what good would it have done me, aside from the satisfaction of finding out what it was all about. The hives were wrapped in tar paper, and I would have had to take that off and put it back. Anyway, I couldn't do anything excepting perhaps to cyanide the colony if it were a case of a drone-laying queen. That would have saved the honey that they had left, but outside of that I couldn't have accomplished anything.

There were plenty of workers. If I still have them, come spring, they might do some good in another hive. If they die off, I won't be losing much. If it was just a case of the ladies wanting a man around the house, I might do more harm than good by disturbing them. So I let them be, and will know next spring whether or not I did the right thing.

That particular hive looked fine when I packed it last fall. It was during the middle of October, along around the peak of the aster bloom, that I gave that colony it's final thorough going over. Nice regular worker brood, plenty of honey sealed, and more coming in every day. Before I sewed them up for the winter, I hefted the top body and it was very heavy, showing that they were set on the stores question. I wonder what happened in the meantime.

It seems to me that I have either read or heard that when a colony keeps drones over the winter, it is a sign of queenlessness. It could be that the queen conked out shortly after I looked for her the last time. It also could be that they superseded, and the new queen emerged too late to be mated. We had a cold snap right after the aster flow was over, and maybe she was caught with her crown down and never did get a chance to mate.

Wonder what happens in a case like that. Will she be able to mate? Seems to me the books say that if she doesn't mate in a reasonable time, it's no go at all. If that is the case, does the winter vacation have any effect on her abilities? Worker bees live far longer in the winter than in the summer. Will Nature take care of such a case by keeping the queen in such a condition that she will be able to pick up where she left off? Or will she be a virgin dud? Time will tell.

Things like this are what make beekeeping the fascinating thing it is. You can't be sure of anything. Just about the time you begin to sit back and think that you know a thing or two, the bees take your smugness and tear it all into little pieces. Then, to show that there are no hard feelings, they'll build up something out of nothing, and you will claim all the credit, just like the father of triplets.

[The presence of drones in a hive, come spring, usually denotes queenlessness. It is possible, however, that a virgin queen did not get a chance to mate before cold weather set in last fall. It seems doubtful if she would be carried over until spring, and if so, whether she would mate in the spring. Time will tell, as you say. So be sure to keep us informed, Pete.—Ed.]

Our Cover Page

It's spring. What if the bee work isn't right up to snuff? Relax. The blue gills are biting. A lake in the heart of Ventura County's (California) sage country. — Photo by Clarence Tontz.

Second Glances

C.M. Isaacson

Good beekeeping methods speak clearly from all of Milton Stricker's description of his methods. His dual purpose manipulation for both improving his stock and preventing excessive swarming should be quite effective for the latter, and go quite a ways, if slowly, towards accomplishing the stock-improvement aim (page 73). And, as he says, remember that this is not a job to be done in a short period, but rather a slow process over the years. I like also his advice that systems (his own or others) have to be adapted according to localities. That shows a beekeeper who has studied his bees.

Two reasons for keeping bees—the pleasure, and the profit. This consensus of the opening paragraphs of Mr. Fletcher's remarks (page 76) is basically why most of us stay in beekeeping. The material profits are not enough alone, but coupled with the intense interest and pleasure a real beekeeper finds in his work, even the lean years drive out comparatively few. And just a further word—Mr. Fletcher's feeding of sulfa syrup, spring and fall, is in line with what is coming to be accepted practice with a good many beekeepers.

There is music in beekeeping (page 79). While a large number of us would not be able to express our feelings in technical terms as J. B. Cashion has done, we still can appreciate his line of thought. For I believe it is true that much of the music enters our being without conscious knowledge. God fills all life with music if we but allow ourselves to be receptive.

The early years are often hard ones in any pursuit, but Miss Bonigut had almost more than her share of hard times when she began beekeeping (page 80). But she will value all the more the fruit of succeeding years. Hard-won things are most valued. May the days to come give her rich reward—both in outward profit and inward satisfaction. And I am glad she likes to be curious—so do I, even after years in apiary work.

Big city beekeeping often receives considerable publicity (page 82), and William Molitor's position as a Times employee meant that a great number of people read about his hobby. That he is a true enthusiast is shown by his willingness to talk beekeeping at the many organizations he is associated with, his use of honey exclusively, his real enjoyment in working with his bees, etc. More power to you, Mr. Molitor—we need you and many more like you in our pursuit. Your enthusiasm is of value far beyond the honey produced from year to year.

That extra large upper air space may make for better wintering in the damp English climate, but in our dry and often extreme cold here close to the Canadian border, I am afraid that too rapid heat loss would kill most colonies so prepared (page 84). Mr. Nicholson does not say whether he also uses a top entrance. If not, I would expect some condensation of moisture in the empty super above, and perhaps dripping on the cluster below. We will all await with interest the report this spring.

Much swarming as a measure of success in beekeeping used to be a rule held to by quite a number a few years back (page 85). The book mentioned by Propolis Pete gives quite a few other ideas on "how not to succeed with bees", as well. One can get an education in many ways, and wintertime reading is good for any beekeeper.

Old brood combs are often rebuilt by the bees—especially if they happen to become a bit moldy, wet, or "clogged" with hardened pollen. The last especially is true—most of us have seen the piles of old pollen in front of some colonies in the spring. Many combs then show patches of newly built comb on the old base (page 88).

Bees will work after dark if the inducement is sufficient (page 89). I have sometimes heard oaks humming when it was too dark to see individual bees—when a heavy honey dew gathering was on.

The lack of poetry in beekeeping writings of today is but a symptom of the constant hurry and pressure in most modern life, I believe (page 96). Not that we are all so intent on the material gain, but that we do not stop to meditate enough. Let us make this year one in which we balance the "pleasure" with the "profit".

Editorials

Importance of Package Bees and Queens In reviewing the beginning and growth of the package bee business in this country, we find that the late A. I. Root was one of the pioneers, having started the shipping of bees in packages in 1878. Bees were then shipped by express in ¼, ½, 1, and 1½ pound packages. The cages then used were quite similar to those now used. Specially prepared candy instead of sugar syrup was used for food in the shipping cages.

Many difficulties in shipping were experienced between 1880 and 1920. During the past 30 years the business has grown by leaps and bounds until now approximately 1,000,000 pounds of bees and a like number of queens are shipped from the South to the North annually. It is obvious that bees are shipped from the South to the North because large areas in the North are adapted to the production of honey and need package bees and queens to start colonies of bees by installing packages and queens early in the season. It is entirely possible to develop populous colonies of bees that will store a surplus of honey the same season. This is one way of deriving quick returns from an investment.

There are regions throughout the southern states well adapted to the production of package bees and queens because of a light almost continuous honey flow throughout the bee season which is more favorable for the breeding of bees and queens than for the production of surplus honey.

Some beekeepers in the North may not realize how many problems there are in the production and shipping of bees and queens. The shipping season comes during April and May, at least the bulk of the package shipping is done during these two months. This means that commercial shippers who send out hundreds of packages each day must prepare far in advance for filling these orders. The grafting of queen cells is begun in early March. Queen mating hives have to be made up early, also shipping cages must be assembled in order to have them available when needed. There is also the problem of securing necessary labor for queen rearing and filling orders. Erratic spells of weather sometimes interfere with the breeding program.

Our hats are off to the many queen and bee breeders in the South who practically work night and day during the heavy shipping season in order to get orders out on schedule to satisfy customers. The package bee and queen business is an essential part of our industry and those engaged in furnishing bees and queens are rendering a worthwhile service.

* * * * *

Honey Production in Canada A memorandum just received from the Dominion Bureau of Statistics, Ottawa, indicates that the total honey production in Canada for 1951 was 40,909,000 pounds compared with 28,351,000 pounds in 1950. The average production per colony in 1951 was 101 pounds while average production in 1950 was 66 pounds. The number of colonies of bees in 1951, 406,340; in 1950, 430,040.

In Ontario and Quebec the 1951 production was greater than the previous year by about 14,000,000 pounds while there were decreases in the three Prairie Provinces. The Province which was the highest for 1951 (per colony average) was Alberta with 118 pounds.

According to the semi-monthly honey report put out by USDA, as of February 1, 1952, the state having the highest per colony average production for 1951 was North Dakota with 138 pounds. However, the per colony average for all of our states was 46½ pounds which is five pounds greater than it was in 1950. Generally speaking, 1951 was a good honey year for both U. S. and Canada.

* * * * *

Mechanical Device Needed for Loading Bees During the years, different devices have been developed for lifting supers off and on brood chambers when manipulating hives—some of them fairly good, others not so good. But so far as we know, no one has come up with a good workable idea for lifting bees on and off trucks, where migratory beekeeping is practiced.

One beekeeper in western Ohio invented a device for lifting hives in units of four each on and off trucks where bees were furnished for pollination. This worked out quite well and saved a great deal of labor.

However, when moving bees from one location to another, in migratory beekeeping, it is necessary to pile the hives on the truck in orderly fashion in such a way that ventilation for the bees is provided. It has been suggested that a crane for lifting the hives on and off trucks be mounted on top of the cab of the truck. Obviously this would necessitate a considerable amount of expense. Furthermore, the crane would extend up into the air and perhaps interfere with the truck passing under overhead railroads. It has been found from experience that man power for handling hives of bees is more efficient and less expensive than mechanical devices. When loading two story colonies onto a truck, two men are needed to carry each hive to the truck and while they are at it they might as well lift the hive onto the truck. Some of these days someone may come up with a simple device for loading hives of bees and when we see it we will wonder why we had not thought of it before now.

* * * * *

Bee World Now that the world is shrinking so rapidly, we would all benefit by giving every boost possible, both morally and financially to the Bee World. The Bee World, under Dr. Eva Crane's direction, is doing the best job that has ever been done in furnishing English-speaking beekeepers with abstracts of the world's research on bees.

* * * * *

"New Bee Disorder Found" About a year ago while attending the winter meeting of the Pennsylvania State Beekeepers' Association, in Harrisburg, reference was made by Prof. E. J. Anderson, of State College, to what was thought to be a new bee disease. The 1951 Report of the Dept. of Agriculture, Bureau of Entomology and Plant Quarantine, makes the following reference under the above heading to this new bee disorder:

In certain samples of dead brood received for diagnosis from Maryland, Pennsylvania, New Jersey and Virginia, all the brood had apparently died from the same cause. Affected brood was light yellow. Some of the dead larvae were in uncapped cells; they had assumed curled, twisted positions. Many were in capped cells, the cappings being perforated, as is common in American foulbrood. The dead larvae were easily removed from both capped and uncapped cells. Reversed brood was found in some cells. Examinations failed to reveal the presence of a causative microorganism or virus.

It would appear that this bee disorder may be restricted to a comparatively small area of the East.

In order that beekeepers may become more conversant with the characteristics of the different brood diseases and not become unduly confused, it is suggested that Circular 392, "Diagnosing Bee Diseases in the Apiary", put out by the Division of Bee Culture, USDA, Washington, D. C., be obtained from the Supt. of Documents, Washington, D. C., at 5c a copy.

If there is any question as to the identity of a brood disease, or disorder, your state bee inspector should be consulted.

* * * * *

Beekeeping Research at State Level The States should not depend on the Federal Government for beekeeping research that they can do themselves. Every agricultural college and experiment station is carrying a large research program. If beekeeping research is not included in their programs of work it is the fault of the beekeepers.

* * * * *

Plan Ahead in Beekeeping We occasionally do hear some beekeeper tell about another beekeeper who secured an unusually large yield of surplus honey. Other beekeepers in the vicinity who perhaps secured much smaller crops, may attribute the success of this one beekeeper to a stroke of luck or favorable weather conditions. In most instances, the beekeeper who secures an unusually high per colony average of honey is a good beekeeper, knows just what he is doing and why, and plans ahead, in advance of the actual honey flow, so that he may secure the maximum crop when available. The successful beekeeper knows that he must have populous colonies boiling over with bees at the right time.

A big honey crop doesn't just happen. It is usually the result of careful planning in advance of the time the crop is harvested. The

majority of beekeepers, commercial and back-lotters, know what it takes to secure a good crop of honey but not all are willing to pay the price it takes, in intelligent apiary management.

Instead of fussing around with a lot of hives of bees, some of which make a bare living during the season, the time is here when beekeepers who are in business for profit, must concentrate on attaining the necessary proficiency in apiary management that will result in securing the maximum crop of honey when it is available. The old slogan, "Plan Your Work, then Work Your Plan" certainly applies in beekeeping today.

* * * * *

Pollen Stores for Winter Important Several years ago many beekeepers thought it was a mistake to have too much pollen in the combs occupied by the colonies during winter. In some instances, attempts were made to remove the pollen from the cells.

During the past few years some have objected to there being an abundance of pollen in the combs early in the spring because it would cause very early brood rearing which was thought undesirable.

Since we began using the double brood chamber, or what is called the food-chamber hive, which would naturally have an abundance of pollen late in the fall, our colonies have been much stronger early in the spring. The following report from the British Bee-Keeping Association, Research Committee, Bulletin No. 1, just received, is in line with our experience:

> The importance of adequate pollen stores was brought home to many beekeepers during the long winter of 1950-51. The weather was so bad at the end of the summer of 1950 that colonies were unable to collect an adequate quantity of good quality pollen. The result was that after a late spring in 1951, and in spite of adequate honey reserves, many stocks were found to have died out. This was not due to disease but to insufficient pollen stores.
>
> It used to be thought that a supply of pollen in the brood combs in the winter was undesirable, since it tends to stimulate brood rearing prematurely. This is now known not to be the case. Indeed it has been shown by research work in Switzerland during the last two years that, subject to certain conditions, the length of a bee's foraging life depends upon the amount and quality of the pollen that it is fed upon as a nurse bee. A longer-lived bee for the work of summer foraging for the honey crop depends then upon the quantity and quality of pollen that was in the hive during the winter months.

State Taxes to Improve Beekeeping A number of States have imposed grower taxes to help special interests—apple growers, for example. One or two States have recently undertaken to tax beekeepers for the purpose of making funds available to improve the marketing of honey. Is this type of taxation good for the beekeeper? If it is will most States in which beekeeping is important do likewise? How will it affect the beekeeper interested mostly in renting bees for pollinating purposes?

* * * * *

Honey Bees for Pollination In the report of the Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, for 1951, about four pages are devoted to the honey bee.

Western producers of legume seeds are now beginning to realize their dependence on honey bees and other pollinating insects and are willing to pay a cash rental for hives of bees or share the seed crop for the use of the bees. In the West where a great deal of alfalfa is grown there are not enough hives of bees available for pollinating purposes. The situation is made still worse by the fact that some commercial beekeepers are going out of business because they have not been able to operate bees at a profit because of the increased costs and comparatively low honey prices.

It has been found in Arizona that bees are essential in canteloupe production. In comparisons made with caged plots to exclude honey bees and similar plots with blossoms available to the bees, it was found that the plots where bees were available gave an estimated 30 percent higher yield.

It has been found also that for the production of red clover seed the best yields are obtained from fields provided with four colonies of honey bees per acre. The number of pollination visits made by the bees reached 275,400,000 an acre, which is a new record.

From studies carried on at Davis, California, it was found that ladino clover yields only pollen. However, in parts of the East it is thought that ladino clover does yield some nectar, especially on soil that contains some lime. It is hoped that ladino clover may yield more nectar in the East after it has become acclimated.

From North, East, West, and South

SOUTHERN CALIFORNIA, Feb. 3

Weather: Southern California certainly had its share of rain in January. Because of two or three heavy downpours, the average rainfall for this time of year is way above normal. Some damage was done to highways, buildings, and other property but the great benefit to the country by far offsets the damage. Since our last writing there has been very little cold weather. In fact, it has felt almost like springtime. Many people are predicting an early spring.

Market: There seems to be little change in the market. Good orange honey is selling as high as 12 cents per pound. Other grades of honey in the hands of the producers will bring a good average price because of the government support.

Condition of Plants: Perhaps the country has never looked more beautiful at this time of year. The hills are covered with green grass. Plants are beginning to send out new shoots. However, some beekeepers are concerned over the condition of the sages and wild buckwheat. Many of the white sage and buckwheat plants appear to be dead because of the many dry years. The black sage seems to be the only variety that has held its own. So the question is, "Will the wild plants produce as much nectar as they would be expected to?"

Miscellaneous: So much rain has put the beekeepers in a most optomistic frame of mind and they are all hoping for an exceptionally good crop. This together with the great call for bees for pollination purposes makes the Southern California beekeepers feel that things are sort of coming their way. And who deserves a bright outlook more than the beekeepers? They work long days and quite frequently nights as well. In order to get good results they must move their bees a number of times each year and that is strenuous work. So if they are having some good luck for a change, it is a very good story to hear.

Most beekeepers are busy these days getting their equipment ready for the spring season. There are frames to clean, supers to repair and paint, and also new frames, supers, and hives to make. Get everything in A1 condition as you may have need for extra equipment because of a larger crop of honey than usual in Southern California.—L. L. Andrews, Corona, California.

NORTHERN CALIFORNIA, Feb. 1

Weather: January brought additional rains to northern California valleys and much snow in the higher elevations. All streams are swollen, the ground is well soaked and continued rains or an extended warm period in the mountains would result in many rivers and streams going over their banks. Some beekeepers have reported higher water levels than they have known for many years and some apiaries have been lost as a result. Precipitation to date in this area has amounted to 15.09 inches, against 12.90 inches for this time last year and a normal of 9.37. Of this total, 7.08 inches fell in January, or 3.56 inches more than normal. The rainfall has been spread over a longer period than last year and has not caused such destructive floods. Apiary sites can be protected from wind and snow but the only protection against flood waters is to locate the bees on ground which is several feet higher than any floods have ever reached.

Bee Diseases: The disease situation in California has been controlled well below the economic level for many years, thanks to the efficiency of our inspection service. Some commercial beekeepers pick up only one or two cases a year while others report having had no infected colonies for several years. There are spots in which European foulbrood is present in varying degrees of severity and which change with environmental factors in different seasons. An occasional case of European foulbrood has appeared in our experimental inbred stock although the disease does not ap-

XUM

pear in normal colonies in sufficient quantity to be demonstrated to our students. Where does it come from in this area and why only in inbred strains, some of which are resistant to American foulbrood?

This past summer we picked up two nuclei whose brood was infected with **B. para alvei,** the cause of para foulbrood. The strains had been inbred for three generations, one was originally Caucasian and the other of disease resistant stock. In 1948, I found an Italian colony infected with a similar organism and in which the disease was first identified as European foulbrood. We cannot account for the origin of this organism which is new to this section of the country, or at least has not been reported before. The dead brood had a very foul odor, reminiscent of decayed fish, and some symptoms which were common to both European and American foulbroods.

Honey Marketing: Enough signatures have been received to assure the adoption of a Honey Marketing Order for California but committees are continuing their efforts to acquaint a still greater majority with the advantages of this self-help program. It seems entirely probable that the mechanics of operating this program will be put into effect in time to include honey produced this season, and to make a start on the fulfillment of the purposes of the Marketing Order.

As far as we can determine, there are no large lots of honey remaining in the hands of the producer at this time. If any producer, or producers, are still holding appreciable quantities of honey for future sale, we will appreciate receiving the information.

For some unexplained reasons, the wholesale prices of bottled honey on the San Francisco market are from 57c to $2.09 less per case than on the Los Angeles market, the greatest difference being in the 2-pound and 5-pound containers. These differences are reflected to some extent on prices paid to producers. It would seem possible that the Honey Marketing Order might be able to iron out these differences for the benefit of the entire industry, if the handlers cannot do so themselves.

Pollination programs and services: Many beekeepers are beginning to think in terms of "pollination service" rather than in honey production and are modifying their management accordingly. One noticeable change is in an effort to take the "back ache" out of moving heavy hives and to speed up the operation without the use of additional labor. Some mechanical loading devices are being perfected to permit one man to load two-story hives on a truck from the ground and to unload them by the same mechanical device. One beekeeper will attempt to "palletize" his hives so as to handle, mechanically, five hives at a time.

There will be enough colonies to provide these needed for pollination service in the production of various crops in California if contacts are made in advance of their need. Many beekeepers operating or placing their colonies in the same general area are cooperating in this service to the advantage of the grower as well as the beekeeping industry. As a protection against injury from chemical poisons, beekeepers should register the exact location of their colonies with the Agricultural Commissioner of the county in which they are located. Beekeepers who are not experienced in pollination services will profit by consulting the larger beekeepers who are engaged in this service and have the experience of two or more seasons in the management of colonies operated primarily for seed production. The concentration of three or more colonies per acre in a given area reduces the probability for honey production. It also increases the hazards of loss from chemical poisoning unless there is cooperation between all interested parties in the production of a maximum amount of seed and in the protection of the pollinating insects.—J. E. Eckert, University of California, Davis, California.

NORTH DAKOTA, January 21

Weather: With the snow going past the window at about a 40-degree angle, hustled along by a northwest wind, it is a far cry from listening to the pleasant humming of a busy colony of bees. However, so far the winter has not been as severe as some of the recent ones. In the Eastern part there has not been as much sunny weather as we would like and very little thawing weather.

Condition of Colonies: Colonies that went into the winter in good condition should be wintering fair. Most parts of the state had a good honey flow and so, unless cut down

too severely, should have plenty of surplus. Some folks still find it difficult to refrain from removing too much surplus honey. Seventy pounds is none too much to leave on for wintering.

In some areas the prolonged wet cold weather last fall prevented the bees from storing the expected honey and pollen supplies, as well as causing them to drain heavily on their earlier supplies and sent the colonies into winter in rather poor condition. These will likely fail to survive the winter.

Honey Market: The market on extracted honey has remained slow at about the same price. Very little comb or chunk honey is on the market.

Miscellaneous: Dr. J. A. Munro, well known to many of the "Gleanings" readers, is working in Bolivia, South America, under the ECA Point Four Program. Dr. R. L. Post is Acting State Entomologist assisted by J. R. Anderson, State Deputy Bee Inspector. According to recent letters from Dr. Munro he is up to his neck in work but is enjoying it thoroughly.

North Dakota's Winter Beekeepers' Meeting is being held February 21 in Francis Hall at the North Dakota Agricultural College. An interesting program is lined up and a fair sized group is expected if the "Weatherman" will cooperate. Pollination service is a subject of much discussion the past year in North Dakota and will be one of the main topics discussed at the beekeepers' meeting.—Julius R. Anderson, Assistant In Entomology, Fargo, N. D.

OKLAHOMA, February 1

Weather: The year 1951 sets several new weather records. As the records are written down for 1951, the year is best summarized by the word "extremes". During the year it was wet, it was dry, it was cold, and it was warm. While the year's total rainfall was 41.41 inches, eight inches over normal, three months of the year had only a couple sprinkles. The county had hail, sleet, high winds, a mercury span from 108 down to 1 above zero. Yes, 1951 had everything. The varied weather left much to be desired by the farmers with their crops. Many of them were ruined by either lack of moisture or floods. On December 29 a high of 82 degrees in Duncan made Saturday the warmest day here since 1948. The mercury went up to 82 on December 14, 1948 during a warm period that continued into January, 1949. The average temperature here for December is 42.8 degrees. The average rainfall here since records were kept is 33 inches. In 1950, 43.04 inches fell.

Bees and Honey: Production of honey in Oklahoma for 1951 is estimated at 1,400,000 pounds compared with 1,624,000 pounds a year ago and 1,972,000 pounds in 1949, according to the Federal-State Crop and Livestock Reporting Service. Production this year is the lowest since 1944. Nectar plants were slow in developing because of a dry cool spring. Rainfall was then excessive in many areas during June and early July. Some colonies were used primarily for pollination of alfalfa and vetch this year. In this section bees have obtained a little pollen and nectar from dandelion, and the elms are about ready to bloom. Many are short of pollen. Cattle feeders and hammer mill operators are experiencing more trouble from bees than normally. The fall flow was quite variable, having been good in some locations but poor in others. In areas where the flow was good, colonies did go into the winter in excellent condition—but in drier locations where the fall flow failed, feeding will be necessary. Much vetch and alfalfa was planted last fall. It is in good condition in some areas but needs rain in other localities. Local demand for extracted honey in small containers is good. The Bureau of Agricultural Economics reports Oklahoma in 1951 to have 56,000 colonies of bees, and the average yield per colony to be 25 pounds. To me, that seems like a low figure in production.

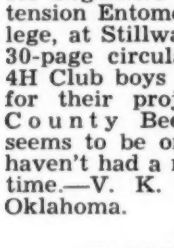
Legumes: Jack Bradley at the Production and Marketing Administration reports 4000 acres of sweet clover in Stephens County. Then, too, Bob Brown over at the Soil Conservation Service tells me we have 40,000 acres of vetch in our county. Rainfall up to now, has been plentiful, and the prospect for a crop this year looks good.

XUM

Pollination: Here in Stephens County, more farmers and ranchers are asking and begging for bees to use in legume fields for pollination services. Usually the answer is—not enough bees. Some are offering free locations and truck to move the bees; however, some of them don't seem to be interested enough to share the seed deal, or pay for pollination services. We still need more experimental tests to prove this work.

Miscellaneous: Our new County Agent, Edward Gregory, is very helpful with beekeepers and will share time with them on his Farm Radio program every Friday. He also has been passing out Circular No. 238 ("Principles of Beekeeping for Beginners") by C. F. Stiles, Extension Entomologist at A & M College, at Stillwater, Oklahoma. This 30-page circular is very helpful to 4H Club boys where they take bees for their projects. Our Stephens County Beekeepers' Association seems to be on the slow side. We haven't had a meeting in quite some time.—V. K. McMasters, Duncan, Oklahoma.

KANSAS, January 31



Weather: Temperatures during November and December were below normal conditions. This was the coldest late fall and early winter that has occurred for many years. January has been relatively mild. It normally is considered the coldest month of the year in Kansas.

Condition of Colonies: Due to the more than usual amount of cloudy, rainy weather last summer, many colonies were short of stores for wintering. Many beekeepers in south-central and eastern Kansas fed colonies which were short of stores. Without doubt, more feeding of colonies will be necessary this spring.

Plants: From the excessive rainfall which occurred last summer, the soil moisture conditions are good, since, during July, the soil was in a saturated moisture condition. Many places had pools of water standing until late fall, because of the excessive rainfall of the early and mid-summer, with average rainfall continuing into the fall. Plants had good growing conditions for establishment during late summer and early fall.

Honey Crop: In many places in southern Kansas, only about one-half a crop of honey was obtained. In some places it was less than a half crop. In the north-central area, during September, there was a smartweed honey flow which furnished sufficient stores for the bees during the fall and winter.

Market: Honey was selling steadily during November and December but, since Christmas, sales have been rather slow. At the present time, honey buyers are searching for honey for packing purposes.

Miscellaneous: Many of the commercial honey producers in Kansas apparently are not interested in alfalfa pollination. Oklahoma and Texas beekeepers, last year, moved several thousand colonies of honey bees into south-central and southwestern Kansas for alfalfa pollination.

There were relatively few colonies of bees lost because of the severe floods in eastern Kansas in July. Commercial beekeepers had no losses since they are cognizant of flood dangers which occur in June and early July.—R. L. Parker, Department of Entomology, Kansas State College, Manhattan, Kansas.

MASSACHUSETTS, January 28

Weather: November had excellent weather for the bees, with frequent flight days. December was cold with much snow and rain with temperatures down to slightly below zero on several occasions, and might be considered a typical or average December for Massachusetts. January started out in the regular manner but during the past two weeks we have had March and April weather. There is no frost in the ground at present and the soil is saturated with water. We have had more than the usual amount of rain.

Condition of Bees: We have just finished inspecting our apiaries to determine the condition of the bees. We like to do this on mild days so that any bees that may fly out of

the hives or fall to the ground have a chance to re-enter the hives. It can be done, however, even in zero weather if necessary. Hives are opened without smoke, with as little disturbance as possible. The amount of honey surrounding the cluster is determined. If cluster is in the top story, or super, it should be at least three fourths full in January. If there appears to be any chance of a shortage of stores (no sealed honey above the bees) a full shallow or full depth super of honey is removed from another colony having more than it needs, and placed above the bees.

Some times a colony may have sufficient honey in the hive but this honey is in the wrong position. In cold climates the honey stores should be available above and at both sides of the cluster. It is much easier for bees to go upward for honey in zero weather. I have known bees to starve with plenty of stores below them, but no honey above. The upper part of the hive is always much warmer than below the cluster because of the fact that heat escaping from the cluster rises.

Our inspection found one colony suffering from Nosema but all other colonies strong in young healthy bees with clusters better than average size. Nearly all colonies were well provided with honey in the right position, but a few colonies were given supers of honey in case the balance of the winter became normal, with much snow and cold. We have always believed it best to remove honey from the hives in the spring, rather than take it away from the bees in the fall and run the risk of starvation. Beekeepers who have shaken from the empty combs, pounds of dead bees that have starved in late March and April know the value of a few pounds of extra honey.

The annual meeting of the Federation of Massachusetts Beekeepers' Associations was held in Worcester on January 10. The meeting was well attended in spite of a stormy day. Some very interesting papers were read from the Secretaries of the county associations, with a full day of speakers and a business meeting.

Honey Plants: The mild weather in November and the past two weeks in January have caused buds of the early flowering trees and shrubs to swell almost to the point of blooming. If the weather remains cold for the balance of the winter there should be no injury, but continued mild weather if followed by severe freezing may mean the loss of bloom of many of our most valuable early sources of pollen and nectar. There should be no injury to the clovers at the present time except late seeded stands. A snow covering over unfrozen ground is beneficial, for much of the rain that has fallen has been soaked up in the soil.

Fruit trees, blueberries, and wild cherries are heavily budded and to date have suffered no injury. These are May flowering sources of nectar which are of great importance in building up colonies for the clovers. A cold rainy fruit bloom period, or heavy frost in May could mean starvation to many colonies light in stores.

Miscellaneous: We are having trouble in one of our apiaries from boys who have upset hives and stolen combs of honey. We would not mind the loss of a few combs of honey, but when the hives are broken open and frames scattered over the ground, and the bees left exposed to the rains and snow, the loss is considerable.—R. E. Newell, Medway, Mass.

VERMONT, February 6

Weather: Early winter came to Vermont with lots of cold and snow, but with the New Year weather has been much milder to date, with lots of rain that has washed away almost all our snow. Meadows are now bare to whatever future weather may come. It was warm enough one day for bees to fly, but hope it gets cold again so the bees will quiet down and not get ideas and start brood rearing. It is still a long time here before spring, in fact, it is still two months before flying weather for bees.

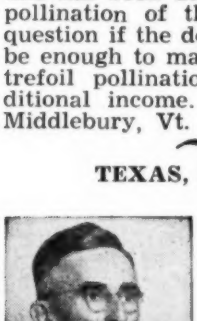
Market: Sales of honey so far have been fair. There has been no change in prices, but costs of overhead in the last year have gone up tremendously. When we go around and find 5 pound tins of honey selling in the cities for less than a dollar, it makes one wonder how a

beekeeper can keep going selling honey for 10 cents or less. We average a little more than that for ours, and even then, so far, our overhead is larger than our sales. Pretty discouraging unless costs go down or prices go up. Looks like neither will happen.

Condition of Bees and Honey Plants: Bees should be wintering well, though the winter has been harder on bees than some previous ones. Honey plants last fall were in excellent condition and have been while the snow covered them. Now, however, with no snow cover so early in the season, anything can happen. We hope there will be more snow to cover the meadows. It is encouraging to see the tremendous interest in Bird'sfoot Trefoil in this area. The colleges and extension service agents are pushing it like nothing has been pushed before in this area. And for good reason. Trefoil seems to be one of the few plants that will make a permanent stand on our heavy blue clay soil. Most other legumes will make a stand a year or two and then disappear, while trefoil gets heavier as time goes on. Fortunately also, it makes excellent pasture, hay, ensilage, and seems to be a good source of honey with us.

With the present trend of early hay cutting before clovers even blossom, this area will become a very poor honey area unless something comes along to replace the loss of bloom. Production of trefoil seed is of increasing interest in this area, but so far, not enough of this has been done to rent bees for pollination of this plant. It is a question if the demand for bees will be enough to make renting bees for trefoil pollination a source of additional income. — Charles Mraz, Middlebury, Vt.

TEXAS, February 4



Weather: Unseasonably warm weather prevailed during January and our winter thus far has been unusually mild which is so different from the severe cold with ice storms we had a year ago. In general, there has been some improvement in rainfall, especially in the eastern portion of the State. Rainfall above normal was recorded locally for the first time in many months with similar reports coming from other areas. However, west and south Texas remain rather dry.

Bees and Plants: With continued spring-like weather the bees are rather active in daily flight, and plants are resuming active growth. Wherever moisture conditions are favorable there is an abundance of bloom of ground flowers, shrubs, and trees, and brood rearing is well advanced. Locally bees have obtained considerable pollen from dandelion, spring beauty, and elms. In much of east Texas wild flowers are particularly abundant, pollen and nectar are coming in freely, and the colonies are building up well. Within a few weeks queen-rearing operations will be underway. In south Texas agarita is beginning to bloom and guajillo and other bushes are budding. While the weather has been mild so far and plant growth has advanced, such early growth is particularly susceptible to frost damage with cold weather still to be expected during the coming weeks. In drier portions of south Texas where there has been little early bloom a scarcity of pollen is reported and colonies are generally weak. Similar conditions are reported in the more intensely cultivated sections of the blackland area where wild flowers are limited to roadsides and water courses. Apiaries are being moved to more extensive bee pasture for spring build-up. Winter legumes are mostly in good condition. There is a rather extensive acreage of Austrian winter peas. In some areas these are now in bloom and bees are reported visiting the blooms for nectar. According to our own observation, honey bees visit winter peas rather sparingly and only when the blossoms reach the wilting stage. Pollen is obtained only at this stage and the young pods show evidence of self-fertilization. Apparently honey bees are not able to enter the turgid early bloom. Over a wide area of Texas mistletoe is in bloom and bees are observed visiting the blooms for both nectar and pollen. The ice storm of a year ago seemingly gave mistletoe a natural pruning which proved helpful to the plants establishing new growth. Reports from the west Cross Timbers area state that fall seeded vetch ger-

minated after recent rain and the stands are satisfactory. In the eastern portion of the vetch area the crop is in good condition. Kaufman and Van Zandt Counties report a total of 100,000 acres of vetch most of which is to be harvested for seed. Arrangement is now being made between seed growers and beekeepers for placing bees in the fields for pollination.

Market: Honey in the retail market continues to move at a steady rate but in smaller volume than during the past month. Prices remain steady and most producers have disposed of their entire crop.

Miscellaneous: According to the Bureau of Agricultural Economics, U. S. Dept. of Agriculture, report of December 15, only about 5 percent of the past year's honey crop in Texas remains in producers' hands. This supply should be exhausted long before the current year's crop will be ready for the market. In the meantime, the Texas market will have to rely for supplies from other states which, according to the same report, have a carry-over of 28 percent of a larger than average crop for 1951. Tarrant County beekeepers have indicated plans for organizing a local beekeepers' association. Two important events in Texas were the recent meetings of the Apiary Inspectors of America and the American Beekeeping Federation held in Dallas,. January 16-19. Both organizations presented an excellent program of which further report will be found elsewhere in this issue.—A. H. Alex, College Station, Texas.

ONTARIO, February 8

A glance at the calendar today, reminds us that the winter is wearing away. The days are lengthening, the sun is becoming stronger, and in a few short weeks another active season with the bees will commence. I am not sure that I look forward to the advent of the season's work with the same feelings as I did 25 years or more ago. True, I look forward to spring and summer for the opportunity it affords of working outdoors in the sunshine and fresh air, but I also realize that I can't "take it" as well as I could when I was in my 20's and 30's. A few years ago I used to regard winter as a period of time between stopping work with the bees in the fall, and commencing again in the spring. Now I am more inclined to regard the winter months as a time to relax, and play around in the basement with power tools, building bee equipment, and various kinds of gadgets, and getting some reading done.

This winter I have been reading Von Frisch's book "Bees, Their Vision, Chemical Senses, and Language". It is truly amazing the amount of knowledge concerning bees and honey which we have accumulated in the past 20 years, and the end is apparently not yet.

At a time in the not too distant past, beekeepers would have greeted Von Frisch's book with raised eyebrows, considering it a figment of the imagination. Yet today we can verify many of his statements from our own observations.

Ideas take hold slowly, it seems. In that at least, we are all "from Missouri". Another instance, I can recall as a teen-ager, I attended my first Ontario Beekeepers' Convention in 1912. A resolution was placed before the meeting to form a Co-operative for the marketing of honey. It precipitated such a prolonged and bitter debate, that the president adjourned the meeting for supper and called a special evening session to continue the discussion. Nothing came of the resolution, and although it cropped up periodically at succeeding conventions, it was not until 1924 or 1925 that the Ontario Honey Producers' Co-operative was finally launched.

In the first year of its organization the interim Board of Directors had to feel their way in the dark, step by step. Offices and warehouse were established in Toronto, capital stock was sold, and a manager and secretary - treasurer engaged. There were no standards or grades for honey, no special design containers for packing members' honey, and no sales promotional work attempted. When the honey commenced coming into the warehouse it was packed in every size container imaginable. And the crates in which it was packed almost defied description. Some of them were made of two-inch planks. As the late J. F. Dunn said, "Those

XUM

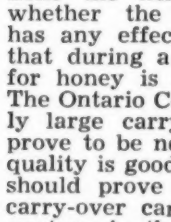
crates could be worshipped without committing any sin, for they were unlike anything in the heavens above, or in the earth beneath, or in the water under the earth."

Weather: So much for reminiscing. As a popular radio broadcaster ends up his newscast, "Now let's take a look at the weather." Following an exceptionally heavy snow-fall early in November, we have had a succession of cold spells, snow-falls, and mild periods all winter. A few record high winter temperatures have been chalked up, with the result that most of the snow has melted, and there are only six to eight inches on the ground at present.

While some low temperatures, 25 degrees below zero were recorded, they lasted only a day or two, to be succeeded by a week or ten days of mild weather. So it can scarcely be considered a severe winter from the bees' standpoint. I have a number of nuclei wintering indoors, and they are all in nice condition with few dead bees on the floor. Several outdoor colonies I looked into during a mild spell were loosely clustered, and looked fresh, and plenty of stores were still available.

Honey Market: Honey is moving slowly. The pattern of demand is quite different to that of most years. A brisk demand one week, little or none the next. I do not know whether the changeable weather has any effect, but I have noticed that during a cold winter, demand for honey is steadier and heavier. The Ontario Co-op anticipates a fairly large carry-over, but that may prove to be no disadvantage, as the quality is good, and if the 1952 crop should prove to be off-grade, the carry-over can be marketed to advantage in the summer and fall of 1952.—Allan T. Brown, Peterborough, Ontario.

NEW YORK, February 7



Market: The trade on honey has been fair over the past few weeks and it is moving but not rapidly. Buckwheat and the darker grades of clover and goldenrod are moving around the 9c support level. Some reports have been to the effect that some of the darker grades have moved at less than ceiling prices, but these facts have not been confirmed. White clover is now selling at 10.1 to 11c on delivered basis. A lot of sales have been reported at 10½c delivered to packers, with no cans returned.

There has been little interest in comb honey, and many report that it is not moving. The public shows little interest in comb honey at the retail price of 39c. This may be due to the fact that the honey is not graded, but it does show that in the country, the sales limit on comb seems to be less than 40c. The 16 oz. glass, light honey moves from retail stores at 27c to 35c. The five pound pails are slow sellers, but good quality white clover brings $1.25. The five pound pails of buckwheat and fall flower honey are $1.00 or less.

Miscellaneous: I feel in writing an article of this type that there should be brought to the attention of the public, little items that may prove helpful to a lot of our readers. I still cannot see how a discussion of the weather, the crops that have been secured, or how the bees are wintering, help much as these items more or less work out for themselves. There is one thing that is very much needed to put sales on a firm basis.

All 60 pound can containers should be treated with anti-rust so that no matter how long the cans are stored they will be free from rust and present a good appearance. Either this must be done or the cans stored in dry shavings, so that the caps, tops, bottom, and sides are completely covered. This for the smaller producer will work out well and he can use them over and over. This means real money, as no one wants to knock off ½c to 1c per pound just for a rusty container when it can be prevented.

Another item is of utmost importance; The price of honey as established by the price support, 9 to 10.1c is not enough with tin containers at present prices and a prospect that tin prices will be raised. If the level could be established at 10c and 11c it would mean a lot to the commercial beekeeper who has expenses that the smaller one does not have.—Roscoe F. Wixson, Dundee, N. Y.

A Talk to Beginners

M. J. Deyell

Looking Ahead

As I sit here at my desk preparing my Talk to Beginners for March, I must try to visualize the needs of beekeepers over the world because Gleanings goes to over 40 countries outside of the U. S.

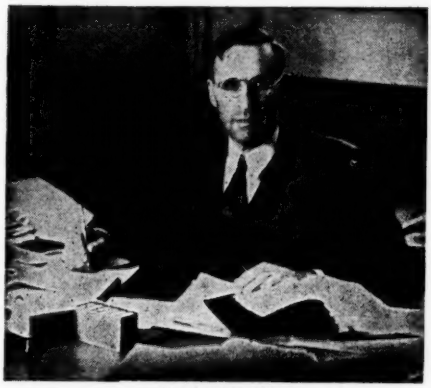
The part of my work which I enjoy most is hearing from beekeepers, especially those in foreign countries. One day recently we heard from beekeepers in Ceylon, a few degrees north of the Equator, New Zealand, about 45° south of the Equator, and from Norway, about 60° north of the Equator. I asked the beekeeper in Ceylon to send us a short article about beekeeping in that country, the kind of bees found there, honey plants, etc. We will probably be hearing from him.

Do We Realize Our Importance as Beekeepers?

It is doubtful if we do—as much as we should. The beekeeper with a few colonies in a suburb of a town or city may not realize how beneficial his bees are in pollinating fruits and vegetables in the immediate vicinity. Certainly some neighbors who have gardens and small orchards may not realize how important honey bees are for pollinating their crops. If town dwellers realized the importance of bees as pollinators, they would not be so ready to oust bees from within city limits, as is the case in some instances about which we read in papers practically every week. If it is a fact that honey bees are responsible for over 80 percent of the pollination done by insects, then the honey bee should be respected by the rank and file of our citizenry more than is the case today.

Apiary Management Here in the North

All of us who plan to secure profitable returns from our bees this coming season, must plan ahead intelligently. Perhaps some of us have been a little lax in attending to details. While it is a fact that colonies of bees will look after themselves to quite an extent if given an abundance of food in the fall, it is necessary to be on hand early in the spring to see that none of the essential requirements are lacking.



Jack Deyell

Watch for Dead Colonies

If we can visit our yards on a day when the bees have their first good spring cleansing flight, we can close up tightly the entrances to hives in which colonies have died during the winter. Regardless of how well the bees were prepared for winter there may be a small percentage of winter loss. Once in a while we have an apiary that comes through 100 percent.

Just why queens in a few colonies fizzle out during the winter, I am unable to say, especially when these queens appear to be perfectly normal in the fall.

Such colonies, if fairly populous and have some young bees left, are usually worth requeening. However, such colonies are apt to consist mainly of old bees that die off quickly and it is usually a waste of time to put in new queens. If there is honey in the hive, this can be used for other colonies that need it.

Closing hives with dead bees in the spring will prevent bees from other hives robbing out the honey in these hives. When bees start to rob in the spring they will probably continue robbing for a time and will sometimes pounce onto a colony that is not up to normal strength, overpower it, and rob all of the honey out of the hive. Such a condition makes it difficult to manipulate hives during the spring and that is one good reason for closing up hives of dead colonies as soon as they are found.

A package of bees ready for shipment.

Package Bees

In the event that some new readers of Gleanings may not know what package bees are, let us say that package bees are bees that are shaken from strong colonies into combless cages made of wire cloth and wood, of convenient shape and size for shipping and handling. Each package is somewhat comparable to a moderate sized swarm. Packages vary in size from two to five pounds of bees. The two and three pound sizes are most common. The five pound size is sometimes used for orchard pollination. Unless otherwise specified, a queen bee confined within a small cage accompanies each package. Each shipping cage has a friction-top can containing sugar syrup. Two or three very small holes are punched in the cover of this can which is turned upside down and held securely inside the shipping cage. The bees get the syrup through these small holes in the cover of the feeder can.

Uses of Package Bees

Packages are used for **strengthening weak colonies** in the spring, for **making increase or starting new apiaries,** for **replacing dead colonies,** and for **pollinating fruit blossoms** in orchards.

Strengthening Colonies

A weak colony, if not strengthened, may die out in the spring. A two-pound queenless package united with a weak colony gives it a tremendous boost.

To unite a queenless package of bees with a weak colony, gorge the bees in the package, also those in the weak colony, with warm sugar syrup made of equal parts of granulated sugar and water. Shake the queenless bees in the front of the hive to receive the bees, and let them walk in. The bees in the weak colony do not object to the queenless bees, and the queenless bees are naturally anxious for a mother. If the weather is cool the queenless bees should be shaken into the hive containing the weak colony.

When establishing new colonies of bees or making increase in the apiary, the hives should be assembled then placed on their stands to be in readiness for hiving packages when they are received. If there are no frames containing drawn combs available, frames with full sheets of foundation should be used. Sugar syrup should be fed continuously until nectar is plentiful. The feeding causes the bees to draw out the foundation. It also stimulates the queen to her best efforts in egg laying.

When hives containing combs with some honey and pollen are used for hiving packages, it is not necessary to feed so much sugar syrup. By all means, use combs of honey for food if such are available and have not come in contact with diseased bees.

Packages to Replace Winter Losses

No beekeeper should allow perfectly good hives and equipment to stand idle when packages are available and when good returns can be secured from them the same season. It is possible to secure good returns from a crop of honey, when available, on an investment in packages within three months from the time the packages are installed.

Watch for Diseased Combs

If American foulbrood is prevalent in the vicinity, the combs in dead hives should be examined carefully for indications of disease. It would, of course, be folly to install package bees on diseased combs.

If the cells in the middle combs are found to be free from dead or decayed brood or the dried-down remains of larvae "scales", they are probably free from disease. If, however, the remains of dead larvae or pupae lying lengthwise on the bottom side of the cells are found dried down into hard scales that adhere tightly to the cell walls, this symptom indicates AFB. If in doubt, a sample of the combs should be sent to the Bureau of Entomology and Plant Quarantine, Beltsville, Maryland, for examination.

For this purpose, a piece of comb four or five inches square containing a number of the dead larvae should be sent in a wooden box. Combs in a diseased hive should be promptly burned and the hive

scorched out by painting the inside of it with gasoline and throwing a match into it, charring the inside to a light brown color, in order to make it safe for future use.

When to Hive Packages

There is no advantage in getting packages too early in the spring. April 15 in Ohio, and May 1 for localities farther north, is about right for average seasons. It takes from eight to ten weeks for packages to build up to full strength colonies ready for the main flow.

The critical time in the development of a package into a normal colony is during the first three weeks. It takes three weeks from the time the queen begins to lay until young bees emerge. Then, it takes two more weeks for these young bees to reach the honey-gathering age, making five weeks before there are young bees of the honey-gathering age, resulting from the first eggs the queen lays.

When young bees begin to emerge, package colonies will forge ahead, provided the weather and conditions for obtaining nectar and pollen are favorable.

Most Profitable Size of Package

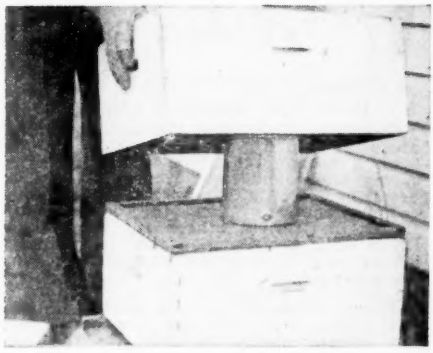
In the northwest, where the honey flow comes rather late and is long drawn out, as in the sweet clover and alfalfa areas, the two-pound package gives good results. In the white clover and alsike regions where the flow is relatively short, the three-pound package seems preferable because it is necessary to have colonies up to the peak of strength at the time the main honey flow starts. Frequently, a honey flow from alsike clover lasts only two or three weeks. For most localities the three-pound package is preferable.

A Wonderful Record

C. B. Hamilton, Fenton, Michigan, developed a colony of bees from a two-pound package with queen installed April 18, 1921, and the same season produced from this colony 567 finished sections of comb honey. So far as is known, this is the world's record.

Points to Remember

1. Be sure to order bees early in the season and specify, if possible, the date shipment is desired so that the shipper may make his plans to suit your convenience. Plan to have the bees arrive seven or eight weeks before the beginning of the main honey flow. Have your express agent call you as soon as the bees arrive.



Feeding sugar syrup—using friction-top pail inverted over hole in inner cover.

2. Do not place hives too close together. They should be at least six feet apart, otherwise the bees may drift from one hive to another. Hives should face south, if possible.

3. If the weather is hot when the bees arrive, place packages in a cool, dark room. If weather is cold, place them in a room not warmer than 70 degrees F. until ready to hive.

4. Feed bees sugar syrup before hiving. Make syrup by diluting one part sugar and one part water until crystals are dissolved. Then smear a liberal amount of warm syrup on the wire screen of each bee shipping cage, laid on its side. The syrup may be applied with a brush or cloth. Continue feeding until the bees are gorged. This will make them quiet to handle.

5. Install bees late in the evening, if possible, to avoid drifting. Have hives ready on permanent stands, each containing four or five frames with combs or comb foundation. The queen which is usually shipped in a cage so that she cannot get out, is hung between two middle frames after the covering of the candy in the end of the cage is removed so that the bees may eat out the candy to liberate the queen. The bees in the shipping cage may be emptied into the space at the side of the frames and as soon as the bees have crawled onto the combs, the frames which were removed from the hive temporarily, may then be put back into the hive and the cover put on. Continue feeding until nectar from natural sources is available in quantity.

XUM

Asked & Answered

Opening Hives Early and Reversing Brood Chambers

Question: (1) What is the lowest temperature at which you think it is safe to open a hive in the late winter or early spring when you know there is a lot of brood in the cells? Some say a hive should not be opened unless the thermometer shows 70 degrees, others say they sometimes open theirs when the thermometer shows only 45 degrees, and without any harmful effects. So what do you say? (2) Some of my hives, all of which have the double deep brood and food chambers, will fill the food chamber and even shallow supers above, leaving the (bottom) brood chamber empty. Now, what do you think of reversing the positions of the food chamber and brood chamber in such cases? I mean just to swap positions, that is, put the food chamber on the bottom board and the brood chamber on top of the food chamber?—Chas. R. Hartsfield, Georgia.

Answer: (1) Regarding the temperature at which a hive of bees may be opened in the spring for examination, 70 degrees F. would seem to be a safe one. A casual examination of a colony to determine the amount of food in the hive, could be made at a lower temperature, possibly around 55 degrees. As a matter of fact, some beekeepers in the North tell about opening hives during February when the temperature is high enough for the bees to have a cleansing flight. We can see how this can be done with no harmful effect on the bees. At that time of the year there would be little if any brood in the combs. In our opinion, it is preferable to have each hive so well stocked with honey in the fall that there will be no question about bees needing stores as spring approaches. It is of course preferable to leave the hives covered until warm weather comes. (2) If the bottom chamber of your two or three story hive is practically empty in the spring, it would do no harm, after warm weather arrives and the honey flow begins, to exchange the position of the supers, placing the empty one on top and the filled one below. One of the speakers at a meeting in Chicago last winter brought out the fact that such manipulation tends to increase activity in the hive and is comparable to feeding sugar syrup because the bees will then move the honey from the lower super into the upper one. This, in turn, creates activity in brood rearing.

Winter Packing on Three Sides

Question: I have one large colony and have given it winter packing of about three inches of dry leaves all around and on top but left the front without any packing. The outer cover is on top of a half-depth super that is nearly full of burlap packing. The brood chamber was full of honey and brood with an extra super half full of good comb honey. But this is what bothers me—so far this winter I have found nearly a pint of dead bees and they don't seem to be any too lively. I have a neighbor who has one hive out under a big pine tree with some but not too much wind protection and his bees are wintering fine and no sign of any dead bees. I am tempted to try mine another winter without any packing. What do you say to that?—H. H. Valley, Maine.

Answer: You mention having three sides of your hive packed with dry leaves and the front left unpacked. It has been said that "a chain is as strong as its weakest link". It might also be said that the packing or insulation of a hive is as efficient as its weakest spot. You, of course, get the analogy. Some beekeepers do leave the fronts of their hives unpacked and in most cases the fronts face south where the sun shines on them. Without a doubt, the rays of the sun do furnish some heat and perhaps would permeate the hive easier and more quickly where it is not packed. This perhaps is a debatable question. However, the sun shines only for a short time during the cold winter days in your state. If it shone continuously every day and the days were long, the sun's rays would be more valuable than they are during the short winter days. You should not be too much concerned about the number of dead bees found at the hive entrance. These may be old bees born late last season that have outlived their usefulness. Regarding the advisability of leaving your hives unpacked, as one of your neighbors has done, we would hardly be in favor of this. Why not wrap each hive of bees in a single thickness of black building paper, tying the paper around the hive with a strong cord and leaving a small opening in the paper adjacent to the hive entrance. The black paper tends to absorb the rays of the sun during the winter and also prevents the cold winter winds from blowing directly against the hive. Some beekeepers favor this type of protection rather than heavy insulation.

American Honey Institute News Notes

By Harriett M. Grace, Director
Commercial State Bank Building
Madison 3, Wisconsin

The honey industry has lost a friend. (See page 143.)

Mr. Lewis W. Parks was selfless and indefatigable in his work. He was an amiable, urbane man. He gave his time, energy, and advice to the American Honey Institute since the first day it was in operation. He and other members of the Board of Directors of the American Honey Institute never have received one penny for travel or any other expense from the Institute.

Mr. Parks loved life, but when the Master sent a day on which he could work no more, he accepted it with his life long philosophy which is expressed in the words of William Cullen Bryant,

"So live, that when thy summons comes to join
The innumerable caravan, which moves
To that mysterious realm, where each shall take
His chamber in the silent halls of death,
Thou go not, like the quarry-slave at night,
Scourged to his dungeon, but, sustained and soothed
By an unfaltering trust, approach thy grave
Like one who wraps the drapery of his couch
About him, and lies down to pleasant dreams."

* * * * *

An urgent appeal has been issued for members of the honey industry, as well as others, to re-examine their plants for every particle of scrap iron and steel. The slogan is: "GET THAT SCRAP TO YOUR DEALER TODAY AND URGE OTHERS TO DO THE SAME."

* * * * *

Honey for Breakfast Week will be celebrated as usual beginning Easter Sunday, April 13. One of the big milling companies will carry colorful advertisements of honey and hot biscuits in the April issue of magazines. Watch for these ads.

The promotion of honey at this time will be carried on in newspapers throughout the country. Radio and television programs will feature this Week. Coast to coast programs have been planned for some months.

Trade journals, as usual, will carry notices of the Week.

Honey producers are beginning to order point-of-sale material in the way of posters, window streamers, Honey for Breakfast folders and stickers.

* * * * *

While plans for Honey for Breakfast Week are going on, plans are being made for National Honey Week, the last week in October. A large manufacturer of ice cream and other allied food industries already have asked to tie in with the Institute's program. The honey producer should see that selling helps are used in his community.

Last October one of the largest manufacturers and distributors of food products in the middle west ordered 100,000 pieces of point-of-sale material for National Honey Week from the Institute.

Write a postal card today for a price list. This material is furnished to honey producers at cost of printing.

* * * * *

You will receive the annual directory of the American Honey Institute soon. Please check to see whether you are listed correctly. If there is an error please let us know at once.

Dr. Eva Crane, editor of the new "Apimondia", and Dr. Morganthaler. Photo by C. G. Tollafield of The A. I. Root Co., was taken at the International Beekeepers' Congress at Leamington Spa, England.

Just News

Through the cooperation of The Worcester Natural History Museum, the **Worcester County (Mass.) Beekeepers' Association** of which Geo. T. More is President, conducts each year a series of classes for the beginner. There is no charge and the public is cordially invited.

Mar. 7 - The Honey Bee as a Pollinating Agent and Honey Plants. —Philip Pike.

Mar. 14 - Spring in the Apiary and Early Manipulations.—George More.

Mar. 21 - Production of Comb Honey and Packaging.—Henry Poole

Mar. 28 - Bee Diseases, Injury by Poisoning and Bee Laws.—G. More.

Apr. 4 - Production of Extracted Honey and Packaging.—B. W. Richardson.

Apr. 11 - Fall and Winter Preparations, Care of Equipment.—Philip Pike.

Apr. 18 - Marketing of Honey for the Small Beekeeper and the picture "The Realm of the Honey Bee." —E. F. Trainor. —B. W. Richardson, Publicity.

* * * * *

The **Middlesex County Beekeepers' Association (Mass.)** is now in the midst of its biggest project, that of setting up their "Educational Display of Italian Honey Bees" at the 81st New England Spring Flower Show to be held under the sponsorship of the "Massachusetts Horticulture Society" March 9 through the 15th at the "Mechanics Building" Boston. The display will show bees in glass observation hives, various equipment for beekeeping, an old-fashioned skep, and an up to date "Langstroth" hive. The center theme will be a glass cabinet with samples of various items from all walks of life showing things in which honey or beeswax are used as a component.

The next regular meeting of the Association is scheduled for March 29th at 6:30 PM when a hot buffet dinner is to be enjoyed by all. Beekeepers in the Boston area are invited to attend at the regular meeting quarters at the "Waltham Experimental Field Station" in Waltham, Mass. It is expected that colored pictures of the "Show" will be shown at this meeting.—John H. Furber, Sec.-Treas.

The next regular meeting of the **St. Clair Beekeepers' Association** (Illinois) will be held in the County Highway Building at Belleville on March 5th at 8 P.M. Another good program will be carried out.—Leiper & Hankammer, Program Committee.

* * * * *

The North Carolina State Beekeepers' Association will hold its annual state spring meeting at Clinton, March 14. An interesting program is being arranged including a talk by W. A. Stephen who attended the International Beekeeping Congress in Europe last summer.

* * * * *

The Palmetto State Beekeepers' Association will meet in Columbia, South Carolina, on March 12. A worthwhile program is being arranged. A cordial invitation to all.

* * * * *

Another of the old guard among Minnesota beekeepers has laid down his hive tool and smoker for the last time. **Peter Stiever** of Kellogg, Minnesota, passed away, after suffering several strokes, on December 18. Nearly everyone in Minnesota who keeps bees knew "Pete" Stiever, and to know him was to like him; his genial nature, good humor, and his willingness to help others drew friends to him. There was not a meeting of our State Association or the Southeastern Association that Mr. Stiever was not there, making his knowledge of beekeeping and his interest in organization known to all. He was secretary of the Southeastern Association from 1929 to 1946 and president of the State Association from 1935 to 1937. He served the state as a deputy bee inspector for 40 years and it was in this capacity that he was so helpful to beginners, and to more experienced beekeepers who were having trouble with disease. Peter Stiever was born in Pierre, South Dakota, October 24, 1891, where he spent his youth. In 1894 his parents moved to Winona, Minnesota, where they lived until 1903, when they moved to a farm in Wabasha County. In Wabasha, on November 28, 1906, he was united in marriage to Miss Elizabeth Howe, who survives. —Clarence G. Langley.

Buy and Sell

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 15c per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month preceding publication.

HONEY FOR SALE

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. The Hubbard Apiaries, Onsted, Michigan.

NEW CROP of honey shipped daily from producer in Florida. Pure orange blossom, 5 lbs., $2.25; Pure Florida cut comb honey, 5 lb. pail, $2.75. No C.O.D. orders. All shipments prepaid. E. R. Raley, Daytona Beach, Florida.

ANY GRADE—Any amount. Alexander Co., 819 Reynolds, Toledo, Ohio.

CLOVER HONEY in new cans. Case or truckloads. Sample 25c. Harry C. Kirk, Armstrong, Iowa.

WHITE CLOVER HONEY, any size container. Lloyd Allen, Tipton, Michigan.

IOWA Honey, one can or truck loads. Russell D. Smalley, Beaver, Iowa.

ORANGE, Palmetto, and Mangrove honey in new sixties. Peter W. Sowinski, Fort Pierce, Florida.

CLOVER extracted honey in sixties. Abram Brubaker, Lancaster, Pa., Rt. 1.

MICHIGAN'S finest raspberry, basswood, clover comb honey, in 4 x 5 window cartoned sections. Extra fancy, $8.00; fancy, $7.00; No. 1, $6.00; No. 2, $5.00; case. E. Z. Quick Way B Farms, Walloon Lake, Michigan.

FOR SALE—Light amber honey in new 60's, $8.00 per can. Andrew A. Keim, Rt. 5, Box 81, Millersburg, Ohio.

HONEY, white clover, 16c per lb. 5 sixties or more, 15c. Satisfaction guaranteed. LOSE BROTHERS, 206 E. Jefferson, Louisville, Ky.

STOLLER'S fancy clover honey in new sixties. Stoller Honey Farms, Latty, Ohio.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We can not guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on COD terms except where the buyer has thoroughly established his credit with the seller.

CASH FOR YOUR HONEY—Light extracted or comb. Regular trade send sample. 60 lb. cans furnished if desired. W. R. Moomaw, Stone Creek, Ohio.

CASH FOR BEESWAX. Write as to quantity and we will quote price. Muench-Kreuzer Candle Co., Inc., Syracuse, N. Y.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & Company, 1360 Produce St., Los Angeles 21, California.

ALL GRADES HONEY AND WAX WANTED—Mail samples, advise quantity and cash prices delivered to us. HONEY SALES COMPANY, 1808 NO. WASHINGTON AVE., MINNEAPOLIS 11, MINN.

CARLOADS or less of honey and wax. Send sample and price. Alexander Company, 819 Reynolds, Toledo, Ohio.

BEFORE YOU SELL your clover honey contact us. Send samples and tell us how much you have. The De'aware White Clover Apiaries, 139 West William St., Delaware, Ohio.

WRITE FOR shipping tags and quotations on rendered beeswax. We buy from one pound up and if you have over 25 pounds let us work it into foundation for you at a 25 percent saving. Walter T. Kelley Co., Paducah, Kentucky.

CASH for your comb honey and all types extracted. Send sample and best price. Buckeye Honey Co., 3930 No. High St., Columbus 2, Ohio.

WANTED—EXTRACTED HONEY—Clover or light amber. C. H. Denny, Rt. 4, Ravenna, Ohio.

WANTED—Light amber clover, amber, goldenrod, buckwheat. Advise what you have for immediate delivery. Roscoe F. Wixson, Dundee, N. Y.

WANTED—White clover honey. We pay 10½c per lb. cans exchanged. Delivered to River Rouge. Cash. Take all you have. Honey Moon Products Co., 39 East Henry St., River Rouge 18, Mich.

FOR SALE

WRITE FOR CATALOG — Quality Bee Supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies and Comb Foundation. Onsted, Mich.

The only comb foundation plant in the east. We sell foundation, work your wax, render combs and cappings. Robinson's Wax Works, R. D. 3, Auburn, N. Y.

BEE SUPPLIES. Catalog free. Hodgson Bee Supplies Ltd., 575 13th Ave., New Westminster, B. C., Canada.

BEE SUPPLIES—Tin packages; 10 sizes glass jars; paper shipping supplies; window cartons and other items. Roscoe F. Wixson, Dundee, N. Y.

HONEY WANTED
Carloads and less than carloads. Mail sample and best prices in all grades.
C. W. AEPPLER COMPANY
Oconomowoc, Wisconsin

Michigan Headquarters for
Root QUALITY
Bee Supplies
Complete Line of Bee Supplies and Honey Containers
Prompt Service
Michigan Bee and Farm Supply
510 N. Cedar St.
Box 7 Lansing, Michigan

G. B. Lewis Wooden Goods!
Dadant's World Famous Crimp Wired Foundation. — Their 85 years' experience is your safeguard. Catalogue on request.
Dotson's Apiaries
3059 W. Roxboro Rd., NE
ATLANTA, GEORGIA

HONEY LABELS
Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.
C. W. AEPPLER COMPANY
Oconomowoc, Wisconsin

THE BIGGEST BEE SUPPLY Catalog published (64 pages) free for the asking. Listing many items not found in other Catalogs. No agents—buy direct and save 20%. WALTER T. KELLEY CO., PADUCAH, KENTUCKY.

FOR SALE—Hives, supers, and extracting equipment for 100 colonies. Will sell all or part to highest bidder by May 1st. Raymond Buhite, R. D. 3, Reynoldsville, Pa.

FOR CHRYSLER ALL-STEEL electric welded queen excluders in the U. S. A., write to: Prairie View Honey Co., 12303 12th Street, Detroit 6, Michigan. Ask for circular E. 2.

YOUR WAX WORKED INTO quality medium brood foundation for 23c pound; 100 lbs., $18.00; medium brood foundation for sale, 85c per pound. Fred Peterson, Alden, Iowa.

SIMPLEX TRAP clips queens without handling, $1.00 postpaid. Instant Frame Spacers — eight-nine, specify size, $1.50 postpaid. Free circulars. George Leys, 36 Jackson St., New Rochelle, N. Y.

SACRIFICING—at half price or best offer, complete bee business at Bancroft, Idaho. Includes home, shop, extracting and honey packaging equipment, and market, good bee locations, equipment, etc., for 900 colonies. Other values worth over $25,000. Sell for $12,500 or best offer. Ernest Galloway, 123 W. 6th St., Salt Lake City, Utah.

Four hundred double-story colonies in excellent condition with drawn combs and extracting equipment. W. H. McCullough, Urbana, Ohio, R. R. 3.

FOR SALE—300 colonies in Northern Michigan, state inspected, good equipment. For detail write Box 251, Gleanings, Medina, Ohio.

FOR SALE — 22 colonies of bees and equipment. Robert C. Hart, 129 N. Underhill, Peoria, Illinois.

THIRTY hives bees for sale at close fruit bloom, about May tenth. Norman Bros. excellent stock. JAY STEWART, CAMPBELL HALL, ORANGE COUNTY, N. Y.

FOR SALE—Large quantity Root supers and frames both KD and assembled. Never used. Also all kinds used materials. Robert A. Cavin, R. D. 2, Blairstown, N. J.

FOR SALE — 90 modern hives and equipment, whole or in part. Lockard, Harmon, New York.

New Modified-Dadant shallow extracting frames, foundation, jars, and other new supplies, at 33⅓% savings. Write Art Steiner, Rt. 4, Chilton, Wis.

FOR SALE — 10-frame standard bee equipment, all in good condition. Most all Root and Lewis. 360 hive bodies with drawn combs, 712 supers, drawn combs, some covers, bottom boards, excluders, uncapping tank, honey pump, and other supplies. 500 new standard Root frames in carton. Never any disease. A bargain if you need supplies and equipment. Diamon T. Smithers, Heuvelton, N. Y., P. O. Box 143.

QUEENBEE PAINTING OUTFIT, $1.50; colony records 10, 15c postpaid. Southwick Apiaries. Waban, Massachusetts.

FOR SALE: 150 two-story colonies. 200 extra supers, 4-frame extractor. Equipment standard. Inspection certificate furnished. James Haifleigh, Cambridge, N. Y.

45-frame Simplicity extractor, Root uncapping machine, Woodman 50-frame Merry-Go-Round, tanks, ¾ in. pump, 20 colonies bees, 200 supers. Shaver, 1500 Mound Ave., Jackson, Mich.

50-frame Woodman extractor, pump, bottling equipment, wax melter, 600 hive bodies with drawn comb, miscellaneous. Good condition. Frank Kearns, Box 407, Austin, Minnesota.

20 colonies ITALIANS. 100 upper stories with extracting combs. All 10-frame. Also 12-frame power extractor. Two 1800 lb. storage tanks, etc. Alf. Hansen, 5002 No. 23 st., Omaha, Nebr.

25 to 30 two and three-story hives, Italian bees. Well located near Mason, Ohio. Three yards, one on W.L.W. Radio Farm. $10.00 per hive. Sell one or all. L. O. Marshall, 2514 May St., Cincinnati, Ohio.

FOR SALE—100 double story colonies of bees. Disease free. Price, $10.00. The Hubbard Apiaries, Onsted, Michigan.

FOR SALE—550 hives of bees with all equipment. State inspected. No reasonable offer refused. Reason for selling, illness. Merl Harrington, R. D. 2, Benton, Columbia County, Penna.

FOR SALE—714 10-frame 2-story colonies. Fine bees, fine equipment. 20 locations. Must sell, not able to care for them, age and crippled both legs. $12.50 each at yard. W. A. Wiley, Westpoint, Miss.

25 Italian colonies with 4 standard supers each, new queens, and drawn combs. A. Longo, 76 Watervale Road, Medford, Mass.

Twelve colonies in standard, ten-frame homemade hives. Some supers, bodies, frames, foundation, etc. Recently inspected. Charles M. Smith, 248 W. Ravine Rd., Kingsport, Tennessee.

FOR SALE—40 colonies Italian bees in 2-story 10-frame hives, no disease. Sell any number. Also extra, equipment. Linders Store, Delphos, Ohio.

400 colonies bees, and equipment, no disease. Ashbel Rogers, Poplar Ridge, N. Y.

BEES AND QUEENS FOR SALE

We use all possible care in accepting advertisements but we cannot be held responsible in case disease occurs among bees sold or if dissatisfaction occurs. We suggest that prospective buyers ask for certificate of inspection as a matter of precaution.

YELLOW ITALIAN QUEENS. Package bees. Satisfaction guaranteed. O. E. Brown, Route 1, Asheboro, N. C.

GREEN'S PROFIT PRODUCING Italian queens will please you. My 25 years' experience is your safe guard. If you want a better hive of bees, get a better queen. Start shipping about March first. Price, 90c each. After June first, 50c each. Cash before shipping dates. D. P. Green, De Land, Fla., R. 2, Phone 512M.

CAUCASIANS—2 pound packages, $3.00; 3 pound packages, $4.00. Queen $1.00 each. Lewis and Tillery Bee Co., Route 1, Box 294, Greenville, Ala.

CARNIOLAN QUEEN BEES, warranted young and fertile, certified healthy, $1.50 each, postpaid. 3-lb. package with Carniolan queen. $5.25 each, f.o.b. shipping point. Health certificate furnished with each shipment. If you have trouble with Nosema, try our bees. Ephardt Honey Farms, Batchelor, Louisiana.

JENSEN Says:

Don't delay another day, to order those package bees and queens you contemplate needing this spring. Time passes swiftly, and early orders help shippers prepare schedules. We have greatly increased production, and improved facilities to better serve you.

"Magnolia State" Italian Bees and Queens as follows:

Quantities	Queens	2 lb. w/q	3 lb. w/q
1-24	$1.20	$3.75	$4.75
25-99	1.10	3.50	4.50
100-999	1.00	3.25	4.25
1000-up	.95	3.00	4.00

For Queens of Dadant's Improved Stock of "Starline" D. R. Hybrids, add 25c per queen or package. We clip and mark Free.
Packages via Express Collect. Parcel Post charges additional.
Will load your truck by pre-arrangement.

JENSEN'S APIARIES
MACON, MISS. U.S.A.
"The business Quality built."

3-BANDED
ITALIAN BEES & QUEENS
2 lb. pkg. with queen $3.00
3 lb. pkg. with queen 4.00
Extra queens 1.00
J. P. Corona
Box 124 Kenner, La.

Northern California
Package Bees and Queens
Will accept some honey in exchange for packages
F. E. Morrison
Rt. 3, Box 3696, Auburn, Calif.

Healthy Italian Bees Queens
Write for 1952 Prices
Georgia Bee & Honey Apiaries
P. O. Box 312 Hortense, Ga.

ITALIAN BEES AND QUEENS
for 1952
Queens $1.10
2 lb. pkgs. & queen 3.25
3 lb. pkgs. & queen 4.25
Shipping starts April 15th.
Discounts on larger orders.
Shipped from Ga. apiaries.
R. L. LIVERMORE APIARIES
Belle Center, Ohio

CASH PAID For HONEY

All Grades

Mail samples and prices

C. W. AEPPLER COMPANY
Oconomowoc, Wisconsin

Dixieland's

Leather-Colored-Italian Bees and Queens

Shipping dates open through April and May

1-50 queens, each	$1.00
1-50 2-lb. pkg. with qn.	3.25
1-50 3-lb. pkg. with qn.	4.10

Write for prices on 100 package lots or more

Dixieland Apiaries
Greenville, Alabama

Protect Your Future Now. Buy Your Savings Bonds Now.

BRITISH BEE JOURNAL
The Only WEEKLY Bee Journal in the World
Subscription $3.00 per annum payable in advance.
Keep up to Date in Beekeeping by taking out a subscription now through our agents:
Gleanings in Bee Culture

NUCLEI FOR SALE Delivered in N. Y. and Pa. by truck on the 1st of May. Full of bees and young queens, $5.50. State inspected. Package bees, 3-lbs. with queen, $4.00. C. D. O'Neill, Haines City, Fla.

FOR SALE — Top quality queens. (Italians). Lynn Williams, Paradise, Butte Co., Calif.

Will fill your cages with certified Italians. 50c pound after May 15th. Write for other package prices. A. V. Dowling, Valdosta, Georgia.

IMPROVED ITALIANS—600 lb. strain. 2 lb. package with queen, $3.00; 3 lb. with queen, $3.75; queens, $1.00. Henry Loehr, Caldwell, Texas.

YANCEY HUSTLERS — Packages and Queens, ready April 1st. Three-band Italians, bred for business. Overweight packages, queens spring-reared under ideal conditions. All guaranteed to please. 2-lb. pkg. with queen, $3.50; 25 or more, $3.25 each; 50 or more, $3.00 each. For 3-lb. packages., add $1.00 to above prices. Caney Valley Apiaries, 2500 Nicholas, Bay City, Texas.

GOLDEN ITALIAN BEES AND QUEENS. Very yellow and gentle. 2-lb. with queen, $4.00; 3-lb. with queen, $5.00; Select untested queens, 1 to 25, $1.20; 25 to 50, $1.10; 50 up, $1.00 each. Carolina Bee Farm, W. O. Curtis, Graham, N. C.

CAUCASIAN BEES AND QUEENS. Extra good workers and very gentle. 2-lb. with queen, $4.00; 3-lb. with queen, $5.00. Untested queens, 1 to 25, $1.20; 25 to 50, $1.10; 50 up, $1.00. Black River Apiaries, Elliott Curtis, Mgr., Currie, N. C.

THREE BANDED ITALIAN bees and queens. Good workers and gentle. 2-lb. with queen, $4.00; 3-lb. with queen, $5.00. Select untested queens, 1 to 25, $1.20; 25 to 50, $1.10; 50 up, $1.00 each. Write for prices on larger orders. Satisfaction guaranteed. Alamance Bee Company, Geo. E. Curtis, Mgr., Graham, N. C.

HELP WANTED

Man for 1952 package season with possibility of operating bees on shares for honey crop. if capable. Experience in package business not necessary but helps. Write Rt. 3, Box 3696, Auburn, Calif.

WANTED capable experienced beekeeper. Must give reference. Living quarters furnished. Good salary and a permanent position. Farr, 4851 Raddock Road Bond Hill, Cincinnati, Ohio.

MAN to assist in producing and packing honey. Living quarters furnished. Year round job to right man. State age, experience, and wages expected. Archie Kauffman, St. Johns, Mich.

CAPABLE single bee man for extracted production. Season, April-November. Give experience, age, personal habits, salary expected. Room, board furnished. Lavern Depew, Auburn, N. Y.

WANTED—Three experienced or inexperienced men to work in our apiaries and packing plant. Good wages, bonus, other advantages. Schultz Honey Farms, Ripon, Wisconsin.

CAPABLE single man for season April —November. Give age, experience, wages expected, etc. Board, room, and laundry furnished. SODER APIARIES, STRATFORD, IOWA.

WANTED — Apiculturist for ranch in Hawaiian Islands, term contract and good advancement for right party. Transportation and ranch house furnished for family, other advantages. Reply fully to Box 1952. Gleanings, Medina, Ohio.

WANTED — Reliable experienced man with good habits to work with bees and honey production. 1200 colony system, located in Finger Lake region of New York. Roscoe F. Wixson, Dundee, N. Y.

WANTED—Two experienced beemen. Comb honey operations. Starting March 15. References. Fred A. Robinson, 503 5th Street S., Nampa, Idaho.

SEEDS

For NECTAR for SHADE—One EVERFLOWERING LOCUST (**Robinia semperflorens**) tree 5 foot; one MOSS LOCUST - Rose pink May flowering (**Robinia hispida**) bush 2 foot; one THORNLESS HONEY LOCUST (**Gleditsia triancanthos inermis**) 18 inch, all for $2.95 or three of each for $7.95 postpaid. Prompt orders from this add gets extra premium. Eighty variety HONEY PLANT & TREE catalog free. Est. 1910. NICOLLET COUNTY NURSERY, St. Peter, Minnesota.

SEEDS OF HONEY PLANTS—improve bee pasture—Special: 24 varieties (seed) for $2.75. UNUSUAL NECTAR PERENNIALS, plants for quick results: 36 plants (6 varieties), $5.00. Postpaid. See free descriptive catalog. PELLETT GARDENS, At'antic, Iowa.

EVERFLOWERING LOCUST (**Robinia semperflorens**), strong 4-5 ft. trees, each $2.75; 3, $6.50; 12, $20.50. VITEX INCISA NEGUNDO trees, 3, $2.50. American bittersweet, strong 2-3 ft., 6 for $2.00. All postpaid. Free honey plant catalog. Pellett Gardens, Atlantic, Iowa.

MISCELLANEOUS

Would like 50 or more colonies, April or early May. Fred Russell, Chelmsford, Massachusetts. Tel. 9043.

WANTED: Lease or what have you on about 400 colonies in Montana or Idaho. A. M. Fowler, Sunnyside, Wash.

MAGAZINES

WESTERN CANADA BEEKEEPER—Official organ of the Manitoba Beekeepers' Association. One year, $1.50; two years, $2.25; three years, $3.00. In combination with Gleanings in Bee Culture, $2.75. 211 Affleck Bldg., Winnipeg, Canada.

THE BEE WORLD, international and scientific journal on bees and beekeeping, with apiculture abstracts. Monthly, including membership in the Apimondia, $5.60 per annum. Dr. Eva Crane, Director, 55 Newland Park, Hull, Yorks, England.

Know interesting facts concerning the bees of India through the INDIAN BEE JOURNAL, published in English by the Bhupen Apiaries (Himalayas), Ramgarrh, Dist. Naini Tal, U. P., India, or available through them. Subs. Rs7/ or 10 shillings or 2.25 dollars per annum. Single copy, Rs ¼s. 1/9 or 40 cents (International Money Order). Payment in mint postage stamps of your country accepted.

INTERESTED in Angora Goats? Read the Sheep and Goat Raiser, Hotel Cactus, San Angelo, Texas, the only ranch magazine published serving the Angora Goat industry. Subscription $1.00. Sample copy-fifteen cents.

Whittle's

Leather Colored Italians

Get your Packages and Queens when you want them. Reserve 1952 Shipping Dates Early. Write for Our 1952 Prices on Package Bees and Queens Our Bees and Service Will Please You.

G. E. Whittle
Star Route West
Greenville, Alabama

Three-Banded Italian Package Bees and Queens

Italian stock that is carefully selected primarily for what they produce and their gentleness. Place your 1952 requirements with me now. Have Caucasian queens also. Prices are:

Lots of	Queens	2-lb. w/q	3-lb. w/q	4-lb. w/q
1 - 25	$1.15	$3.00	$3.90	$4.85
25- 50	1.05	2.90	3.80	4.75
50-100	1.00	2.85	3.75	4.65

Farris Homan
Shannon, Miss.

THREE-BANDED ITALIAN BEES AND QUEENS

MAY we have the pleasure of serving you with the very best in THREE-BANDED ITALIAN BEES AND QUEENS. Guaranteed full weight packages—young baby bees—young laying queens. Live delivery guaranteed—prompt service.

2-lb. pkg. with queen.....$2.75
3-lb. pkg. with queen..... 3.75

For queenless package, deduct price of queen. Extra pound of bees, add one dollar.

LUCEDALE APIARIES
Lucedale, Mississippi

OLDEST BEE JOURNAL IN THE ENGLISH LANGUAGE

Keep up on markets, practices, scientific data, regulations, and plant possibilities.

1 year, $2.00, U. S. and Canada
Foreign postage, 50c a year extra

AMERICAN BEE JOURNAL
Hamilton, Illinois

ITALIANS

Bees Queens

We are booking package bees for 1952.

Order early and avoid delay at your time of need.

Liberal weights, live delivery, and satisfaction guaranteed.

	2 lb. w/q	3 lb. w/q
1 -25	$3.40	$4.50
25-up	3.10	4.25
Queens	.....$1.10	

The Cherokee Bee Co.
Cordele, Ga.

High Quality Italian Package Bees & Queens

Prolific & Productive

	Queens	2-lbs.	3-lbs.	4-lbs.	5-lbs.
1-24	$1.00	$3.25	$4.00	$4.75	$5.50
25-up	.90	2.90	3.65	4.40	5.15

Write for prices on larger orders. Bees are shipped in new, neat, lightweight shipping cages by Express Collect or Parcel Post when prepaid by customer. 10% books your order, balance due 10 days before shipping date. State Health Certificate and Live Arrival Guaranteed. Please send your requirements in as soon as possible. Thank you.

Carlus T. Harper
New Brockton, Alabama

BEES and QUEENS

Send for FREE Circulars
Booking orders now
Over 30 years a shipper

Blue Bonnet Apiaries B-23
Weslaco, Texas

AND NOW AGAIN
We are accepting orders for shipment beginning on or about June 15, for our HARDY NORTHERN BRED leather colored QUEENS. $1.25 ea. Discount on large orders.
The Delaware White Clover Apiaries
139 W. William St., Delaware, Ohio

EXTRACTORS

I have two Root Buckeye extractors for sale. These are in perfect condition and ready to go. If interested, write me for price. Millard Stahlman, Stahlman Apiaries, Buhl, Idaho.

Two used 4-frame extractors for sale. Write for full information. Sam Wollmann, Jr., New Elm Spring Colony, Ethan, So. Dak.

1952 QUEEN BEES

3-Banded Italians

1-9	$1.10
10 or more	1.00

Geo. W. Moore
Shasta, Shasta Co., California

WILLIAMS ITALIAN BEES

2-lb. package bees with queen	$2.75
3-lb. package bees with queen	3.75
Queens (postpaid)	1.00

Guaranteed full weight and prompt shipping dates. Health certificate with each shipment.

DR. WILLIAMS APIARIES
303 W. Defee Ave. Baytown, Texas

Bees & Queens

for 1952

Place your orders now for high quality package bees and queens. A small deposit will guarantee delivery within five days of date requested, or ONE-ONE-HALF YOUR PURCHASE PRICE WILL BE REFUNDED.

	2 lb.	3 lb.	4 lb.
1-24	$3.25	$4.25	$5.25
25-49	3.05	4.05	5.05
50-up	2.85	3.85	4.85

For loose-queen packages, add $1.00. For queenless packages, deduct $1.00.

EXTRA QUEENS — $1.00

The Puett Company

Hahira, Ga.

"WHERE SATISFACTION IS A CERTAINTY"

Protect Your Future Now. Buy Your Savings Bonds Now.

CAUCASIANS
CARNIOLANS

Hardy, prolific, rapid build-up, finest of workers, GENTLEST OF ALL RACES. Gentleness is safest in town, near neighbors, or near the highway. Gentleness saves time, sweat, patience, and work. Northern breeders used.

Untested queens, $1.20 each, Air Mail

Discount on quantity orders. Ask. Some packages yet. Ready March 1st. Over 26 years a queen breeder.

Albert G. Hann
La Belle, Florida

HOWARD WEAVER'S

Caucasian Package Bees & Queens

	Queens	2-lb. W. Qn.	3-lb. W. Qn.
1 -24	$1.20	$3.50	$4.50
25-49	1.10	3.25	4.25
50-up	1.00	3.00	4.00

All queens are shipped post paid, while package bees are express collect, unless buyer remits postage with order.

Howard Weaver
Navasota, Texas

PACKAGE BEES AND QUEENS — "ITALIANS"

	1-9	10-99	100-up
2 lb. pkg. with queen	$3.25	$3.00	$2.90
3 lb. pkg. with queen	4.25	4.00	3.80
4 lb. pkg. with queen	5.25	5.00	4.75

Extra Queens $1.00 each

We guarantee live delivery, a health certificate with each shipment, and service on which you can depend. Shipments by express or parcel post.

Quality Does Not Cost — It Pays

The Wilbanks Apiaries

Claxton, Georgia

ITALIAN BEES AND QUEENS

With Queen	1 to 9	10 to 99	100-up
2 lb. pkg.	$2.75	$2.65	$2.50
3 lb. pkg.	3.70	3.60	3.45
4 lb. pkg.	4.50	4.40	4.30
Nice large Queens	.85	.75	.70

We guarantee you nice large 1952 queens and full weight packages. Order early for your preferred date.

Mitchell's Apiaries Bunkie, La.

Italian Bees and Queens

Book your orders now. Same stock we use in our extensive Northern Ohio and Indiana Apiaries, where we produce honey by the carloads. Satisfaction, live arrival guaranteed. Replacement or refund promptly on receipt of bad order from express agent.

March and April Prices

Lots of	3-lb.	4-lb.	5-lb.
1 -29	$4.00	$4.75	$5.50
30-100	3.75	4.50	5.25

Morehead and Sons
Funston, Georgia

ITALIAN BEES AND QUEENS

2-lb. package with queen $2.75
3-lb. package with queen 3.50
Queens (postpaid) ..... .80

Guaranteed full weight and prompt shipping dates. Health certificate with each shipment.

BAYOU BEE CO.
Rt. 1 Box 49 Montegut, La.

BUY U. S. SAVINGS BONDS

KOEHNEN'S
Package Bees and Queens
For Quality and Service
KOEHNEN'S APIARIES
GLENN, CALIFORNIA

Starline **SUNKIST** **Italian**

Top quality queens and packages with guaranteed live delivery, health certificate, satisfaction. EARLY orders solicited:

	Starline Queens	Italian Queens	2-lb. w/q	3-lb. w/q	Pkgs. with Starline Qns.
1-24	$1.45	$1.10	$3.50	$4.50	Add 35c
25-50	1.35	1.00	3.25	4.20	Add 35c
50-up		.95	3.00	3.90	Add 35c
100-999	1.25				

SUNKIST BEE COMPANY **CONVENT, LA.**

NUCLEI FOR SALE
Delivered in N. Y. and Pa. by truck on the 1st of May. Full of bees and young queens, $5.50
State Inspected.
Package bees, three pounds with queen, $4.00.
C. D. O'NEILL
Haines City, Fla.

Gaspard's Italian Queens & Package Bees

2-lb. pkg. with queen	$2.70
3-lb. pkg. with queen	3.40
4-lb. pkg. with queen	4.10
5-lb. pkg. with queen	5.10
Queens	1.00

10% discount on 100 pkgs. or more.
Young queens and bees in every package.
Live delivery guaranteed and health certificate with each shipment.
GASPARD BEE CO. Hessmer, La.

NORTHERN — QUEENS
Gentle 3-banded acclimated Italian stock. Shipping starts in May.
"THEY PRODUCE"

1-1000	$1.00
Select tested	2.00

Clipped, airmailed, painted.
BARGER APIARIES
Carey, Ohio

Gray Caucasians

Reliable and Prompt Service

Write for Prices

Bolling Bee Co. Bolling, Ala.

Canada's
National Monthly Magazine
for Beekeepers
Canadian Bee Journal
54 Bloor St. W., Toronto 5, Ont.
U. S. Subscription Price,
only $1.75 per year.

TOO LATE TO CLASSIFY

ALUMINUM Travelo housetrailer 18 feet long, would like to trade for bees. Steve Zupko, 4463 - 23rd St., Wyandotte, Michigan.

400 CANS fine quality clover honey in good 60's at 12c F.O.B. Blair, Nebr. Cans returned. Elmer Monson, Blair, Nebr.

50 COLONIES BEES, highest bidder by May 1. John Hallbauer, Wales Center, N. Y.

FOR SALE—All or part, 35 to 37 double-story colonies. Supers and equipment for 43 colonies. Most is practically new. Don B. Savery, Brighton, Michigan.

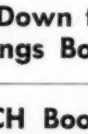
Bring Your Dreams Down to Eearth
Buy U. S. Savings Bonds

FARM and RANCH Bookshelf
For Yourself or as a Thoughtful Gift
WAITING FOR EXPERIENCE IS SLOW AND EXPENSIVE
BUY IT IN BOOKS. Get the benefit of millions spent on agricultural experiments.
Books will pay for themselves many times over.

PRINCIPLES OF FEED-FARM ANIMALS $3.25

This book presents the latest advances in the field of animal nutrition, interpreted so that the information is of practical value to a stockman.

APPROVED PRACTICES IN DAIRYING
Juergenson & Mortenson $2.10



To-the-point information on dairy production. Written in easy to understand, non-technical language. You can learn how to make your cows produce with this pocket-sized book.

SATISFACTION GUARANTEED OR MONEY REFUNDED
Circle books wanted — enclose check. Order from:
THE INTERSTATE
GBC Farm Books
P. O. Box 594 Danville, Illinois

Better BRED Queens

THREE BANDED ITALIANS

You are the judge — we are the producers. Year after year of regular repeat customers has proven our stock, service and responsibility are good. Everything is pointing to a good year. Let us book your order at the following prices:

	2-lb. pkg. w/q	3-lb. pkg. w/q
1-24	$3.60	$4.50
24-99	3.35	4.25
100-up	3.10	4.00

Queens, any quantity $1.00

Calvert Apiaries Calvert, Alabama

York's Package Bees and Queens for 1952

Quality Bred Italians

The Strain Preferred by Leading Honey Producers

Quantity	Package Bees with Queens 1 to 24	25 to 99	100 up
2-lb. Packages	$3.50 each	$3.25 each	$3.00 each
3-lb. Packages	4.50 each	4.25 each	4.00 each
4-lb. Packages	5.50 each	5.25 each	5.00 each
5-lb. Packages	6.50 each	6.25 each	6.00 each
Queens	1.10 each	1.05 each	1.00 each

Queenless Pkgs., deduct $1.00 per pkg. Tested queens, $1.00 extra
Place orders now for shipping dates wanted.
Shipment by express, parcel post, and truck.

YORK BEE COMPANY Jesup, Georgia, U.S.A.
(The Universal Apiaries)

A Famous Strain of Yellow Italians

produced by

The World's Most Modern Bee-Breeding Establishment

1951 & 1952 PRICES

Lot	Queens	2 Lbs.	3 Lbs.	4 Lbs.	5 Lbs.
1-5	$1.35	$3.55	$4.50	$5.45	$6.40
5-15	1.30	3.50	4.45	5.40	6.30
15-25	1.20	3.40	4.35	5.25	6.20
25-100	1.15	3.30	4.25	5.20	6.10
100-up	1.05	3.20	4.15	5.05	6.00

Select Tested Queens — Before June 1, $10.00. After June 1, $5.00.

Above package price includes queen. Queenless packages, subtract $1.05 from the price of package with queen. All queens are airmail, postpaid, but package bees are F.O.B. shipping point and are shipped Express collect. It is preferable to ship package bees by Railway Express. However, they can be mailed and in that event, customers should include postage.

TERMS: Small orders, cash in full. Large orders, 20 percent deposit, balance to be received two weeks before shipping date. U. S. Funds. A 10 percent discount is allowed on package bees if shipments are to be made after May 20th. A 20 percent discount is allowed on queens if shipment is to be made after May 20th. And a 25 percent discount is allowed on queens to be shipped after June 1st.

The Daniels Apiaries Picayune, Miss.

PLANT'S 3-BANDED ITALIANS

Productive, Gentle, Easy to Handle

Our package colonies are shook every ten days to two weeks and all bees entering the packages are strained through an excluder. 90 percent or more are less than two weeks old. No drones. No stray queens.

We have never received a report of any Nosema in our bees.

Prompt shipment in light weight cages with health certificate attached.

All queens are young, laying properly, and first quality.

Safe, full weight arrival guaranteed by express. However, we will ship by mail at buyer's risk.

Quantity	Qns.	2-lbs. & qn.	3-lbs. & qn.	4-lbs. & qn.	5-lbs. & qn.
1-24	$1.25	$3.50	$4.50	$5.50	$6.50
25-99	1.15	3.25	4.25	5.25	6.25
100-up	1.10	3.00	4.00	5.00	6.00

W. E. PLANT

Hattiesburg Mississippi

ITALIAN BEES & QUEENS

Book your orders now. Full weight, Health certificate, and live delivery guaranteed. Via express.

2-lb. pkg. with queen $2.50
3-lb. pkg. with queen 3.40
Queens ..... .90

Homan Bros.

R. 2 Shannon, Miss.

1952 SAM E. MOORE 1952

NO PACKAGES—JUST QUEENS

DO YOU WANT SOME PERSONALLY RAISED TOP QUALITY ITALIAN QUEENS?

1-10	$1.25
11-49	1.15
50-99	1.10
100-499	1.05
500 or more	1.00

Prices postpaid Air Mail.

All Queens raised in large 4-frame nuclei.

SAM E. MOORE

2436 North St., Redding, California
Phone 293 R

Bees Delivered

Our 30th Year

State size and number of packages wanted so we can make delivered prices.

Italian D.R. stock only with 100% satisfaction.

Merrill Bee Co.

P. O. Box 115

State Line, Miss.

Packages for 1952

ITALIANS

	Queens	2-lb.	3-lb.
1 -24	$1.10	$3.50	$4.50
25-49	1.00	3.25	4.20
50-up	.95	3.00	3.90

Triangle Apiaries

North, South Carolina

Queens Our Specialty

Italian, Caucasian, and Carniolans

Three Isolated Mating Yards to Prevent Mixing Breeds

ITALIANS .....$1.00 each
Caucasians ..... 1.10 each
Carniolans .....1.25 each

Shipments start Feb. 20, 1952.

All Queens shipped by Air Mail and guaranteed to please.

Walter D. Leverette Apiaries

Box 364 Fort Pierce, Florida

Good Italian Queens in Season

White Pine Bee Farms
Rockton, Pa.

Thrifty Bees

Three-Banded Italians only

Prices on package bees are F. O. B. and include queen.

2 lb. packages in lots of 1 to 24, $3.50; 25 to 99, $3.25; 100 up, $3.00 each.

For larger packages add 80c for each additional pound of bees. Queens postpaid: 1 to 24, $1.10; 25 to 99, $1.05; 100, up, $1.00 ea. 10% books order. Balance 10 days before shipment.

We guarantee live delivery and full weight packages of young THRIFTY bees.

W. J. Forehand & Sons
Fort Deposit, Ala.

Breeders Since 1892

LADY LIKE CAUCASIAN bees in our testing apiaries in a North Central State more than doubled that state's average per colony honey crop in 1951. Our breeding queens for this season were selected for disease resistance, honey production, and gentleness. Their daughters will produce for you if properly handled.

	1-11	12-49	50-up
Select untested qn., ea.	$1.30	$1.20	$1.10
2-lb. with " " "	3.75	3.65	3.50
3-lb. with " " "	4.75	4.65	4.50

Select untested qn. after June 1st, $1.10 ea., any number. Circular on request.

Caucasian Apiaries
Castleberry, Ala.

Package Bees for 1952

Truck loads a specialty
Nuclei made to order
Italian Queens

Eugene Walker

Live Oak, Calif.

Will You Buy Bees this Spring?

If so, and especially if you intend to get Kelley's Island Hybrids, place your order at once. The demand is great and we cannot gaurantee to deliver Hybrids on short notice. However, we will do our best.
Buy your bees as you would seed for your farm or garden. The best is cheapest regardless of price. The queen is your bee seed.

Package Bees

Headed either by our regular strain queens or Kelley's Island Hybrids at the following prices:

	2-lb. w/q	3-lb. w/q
1 to 25	$3.25	$4.25
26 or more	3.00	4.00

"They Produce"

Club your orders and pick up by truck for substantial savings.

"Satisfaction Guaranteed"

ROSSMAN & LONG
P. O. Box 133 Moultrie, Ga.

Protect Your Future Now. Buy Your Savings Bonds Now.

BEES
THREE BAND ITALIANS

3 lbs. with queen	$3.00
4 lbs. with queen	4.00
2 lbs. with queen	2.50
2 lbs. without queen	2.00
Queens, any lot,	.75

Live delivery guaranteed,
Health certificate furnished.

THE M. L. TINDAL APIARIES
S. R. E. Greenville, Ala.

Our 1952 prices will interest you.
Our packages and queens from ABBA selected stock will please you. Write us today.
J. F. McVay Jackson, Ala.

DON'T LOOK ON THE OPPOSITE SIDE OF THIS PAGE

There have been some changes made.

Sam E. Moore

XUM

Look for this Sign
When You Want
QUALITY AT LOW COST

Trade Mk. Reg.
U. S. Pat. Off.

KELLEY — "The Bee Man"

Bees and Queens

Three banded Italian bees and KELLEY'S ISLAND improved hybrid queens direct from our own farm. Shipments start April 1st, express or parcel post shipment. Thousands of extra queens.

	Kelley Island Queens	2-lb. bees & K. I. queen	3-lb. bees & K. I. queen
1-24	$1.10 air mail	$3.50	$4.50
25-99	1.00 air mail	3.25	4.25
100-up	.95	3.00	4.00

The Walter T. Kelley Co. Paducah, Ky.

SAVE MONEY!

Limited Stocks Only at These Low Prices

MAIL ORDER GRADE BEE SUPPLIES

Precision cut—made on same machinery as Root quality supplies but with slight defects not permitted in our first-line quality. Satisfaction is guaranteed—if you are not satisfied return the goods and your money will be refunded. Take advantage of this opportunity today for the supply is limited.

A REAL SAVINGS TO YOU

C2	Full Depth Supers, empty, 5's Wt. 45 lbs.	$8.30 per carton
C13	Shallow Supers, empty, 5's Wt. 28 lbs.	5.20 per carton
D2	Beeway Supers, empty, 5's Wt. 22 lbs.	4.25 per carton
B2	Metal Covers with Inner Covers, 5's Wt. 51 lbs.	11.10 per carton
G6	Standard Frames in 100's only, Long top Wt. 45 lbs.	9.95 per carton
G22	Shallow Frames in 100's only, long thin top Wt. 25 lbs.	7.65 per carton
G16	Standard Frames in 100's only, 2-piece bottom Wt. 45 lbs.	9.95 per carton
	1950 ABC and XYZ of Bee Culture — slightly damaged — does not affect value of book, Wt. 3 lbs.	2.50

Available from Medina only on cash with order basis as stocks permit. Mail, freight and transportation charge extra. Prices F.O.B. Medina, Ohio.

The A. I. Root Company

Medina, Ohio

1952
CAROLINA'S

Three-Banded Italian BEES and Queens

Same High-Quality Merchandise and Service

1. PREPAID to your door
2. Shipped by any means of your choice
3. Queens clipped and painted for easy identification
4. Guaranteed safe arrival
5. Health Certificate with each shipment

In spite of increased labor and material costs, our 1952 prices have **not been increased.**

1952 PRICES DELIVERED, PREPAID

	Queens each	2-lb. & queen	3-lb. & queen	4-lb. & queen	5-lb. & queen
1-24	$1.10	$4.00	$5.00	$6.00	$7.00
25-99	1.00	3.75	4.70	5.65	6.60
100-499	.95	3.50	4.40	5.30	6.20

(for queenless packages deduct price of queen)

SHIPPED ANYWHERE IN UNITED STATES AND CANADA.

Terms: One-third upon receipt of order, balance ten days before shipment.

CAROLINA HONEY COMPANY

H. C. Brunson, Lessee

P. O. Box 188 Hampton, South Carolina Phone 4282

(formerly Varnville)

THE RICH HONEY FARMS, JEANERETTE, LA.

ITALIAN PACKAGE BEES—Heavy with bees, no drones. Shipped by parcel post or express. For parcel post shipment, add 75c per package for postage.

QUEENS—The finest money can buy. Your choice of two outstanding breeds. Painted, clipped or airmail at no extra cost.

DADANT'S STARLINE HYBRIDS

Worth much more than the price we are asking. You have years of selective breeding and testing in the ancestry of this strain. Every desirable quality known to beemen is bred into this line by artificial insemination. It has taken years to get this strain where it is today, and if in years to come there are better bees this will be it.

Starline queens:	1-24	$1.45
	25-99	1.35
	100-up	1.25

Packages	1-24	25-99	100-up
2-lb.	$3.50	$3.25	$3.00
3-lb.	4.50	4.25	4.00
4-lb.	5.50	5.25	5.00

When ordering packages with Starline queens, add 25c per package.

RICH'S LEATHER ITALIAN STOCK

Gentle, uniform, and good producers will do their part in getting for you many supers of honey. Breeding stock selected for high production, non-swarming, and gentleness. These bees are not resistant to A.F.B. as are the Starline Hybrids. You will, however, find them very profitable.

Regular Leather Italian queens:	1-24	$1.20
	25-99	1.10
	100-up	1.00

Australasian Beekeeping News
The Leading Bee Journal of the Southern Hemisphere is the

"AUSTRALASIAN BEEKEEPER"

Subscription 18 shillings per year post free. Start any time. Inquire for International Money Order for 18 shillings (Australian) at your Post Office.

Write now to the Editor
P. O. Box 20, West Maitland
New South Wales, Australia

We Have Nothing to Sell
But a Good Bee Journal
BEEKEEPERS MAGAZINE
Lansing 17, Michigan
Fourteenth Year of Publication
One Year, $2.00
Three Years, $5.00
Sample copy mailed upon request

XUM

Do You Have Idle Equipment?

We extend credit to commercial beekeepers who use 100 or more packages without extra charge. Price in quantities of 100 or more, for a 2-lb. package with a young laying queen is $3.20 and the 3-lb. package with a young laying queen is $4.15. Prices are FOB. If interested, please send three character references; the number of packages wanted; the shipping date, and you will be immediately advised if we are in a position to fill your order. Ask your neighbor about our Bambi brand queens.

Southern Apiaries & Supplies Co.

Chatom 3, Alabama

Brazos Valley Apiaries
Cameron, Texas

Bees & Queens

Brazos Valley Apiaries
Cameron, Texas

ITALIANS OR CAUCASIANS

	1 pkg.	2 or more
2 lbs. bees with young queen	$3.00 each	$2.75 each
3 lbs. bees with young queen	4.00 each	3.65 each

Over a quarter century in the same place, same business, under the same name, is my record. My motto: "I expect to do business with you again."

H. E. Graham Cameron, Texas

Three-Band Italian Package Bees and Queens and Pure Italian Three-Way D. R. Queens

Full weight, prompt shipment, young bees. State health certificate with each shipment. Live arrival guaranteed. Replacement or refund made promptly upon receipt of bad order from your express agent.

1952 Prices

Each Package with a Young Laying Queen

Lots of	2-lb.	3-lb.	4-lb.	5-lb.
1-29	$3.25	$4.00	$4.75	$5.50
30-100	3.00	3.75	4.50	5.25
100-up, each	2.80	3.50	4.25	5.00

Tested Queens $2.00 each **Untested Queens $1.00 each**

For introduced queens, add $1.00 per package. If queenless bees are wanted, deduct $1.00 from the price of each package.

Jackson Apiaries **Funston, Georgia,** **U. S. A.**

K N I G H T ' S

THREE BANDED LEATHER COLORED ITALIAN BEES AND QUEENS

The following prices include the Queen with each package:

	2-lb. pkg.	3-lb. pkg.	4-lb. pkg.	5-lb. pkg.
1 to 25	$4.00	$5.00	$6.00	$7.00
26 to 49	3.75	4.75	5.75	6.75
50 and up	3.50	4.50	5.50	6.50

QUEENS $1.25 EACH DURING MONTH OF APRIL

I guarantee a good full weight package with a Good Young Laying Queen, Safe Arrival and Your Satisfaction.

I Will Appreciate an Order From You

JOHN T. KNIGHT, Hayneville, Ala.

PACKAGE BEES — ITALIAN QUEENS

	1-49	50-99	100-up
2 lb. with queen	$3.50	$3.25	$3.00
3 lb. with queen	4.50	4.25	4.00
4 lb. with queen	5.50	5.25	4.90
5 lb. with queen	6.50	6.25	5.80
Queens	1.15	1.10	1.00

Safe arrival and satisfaction guaranteed.

Queens sent airmail postpaid—clipped on request.

GEO. A. HUMMER & SONS

Est. 1892

Prairie Point, Miss. — Western Union, Macon, Miss.

1952 PACKAGE BEES AND QUEENS 1952

YES WE HAVE THEM — THE BEST KIND YOU CAN BUY

BRIGHT 3-BANDED ITALIANS

— — YOU CAN COUNT ON US — —

For superior quality—full weight—light shipping cages—young baby bees—choice queens. Only good quality packages pay profits. Poor packages are expensive at any price. Our 31 years of experience in queen rearing and package shipping assures you quality and service that you depend on. Safe arrival, satisfaction guaranteed, state health certificate furnished.

-Prices-	1-24	25-100
2-lb. pkg. with queen	$3.25	$3.00
3-lb. pkg. with queen	4.25	4.00
Untested queens	1.00	.90
Tested queens	1.90	1.75

Package bees are shipped express. If wanted shipped parcel post, add postage.

Norman Bros. Apiaries — **Ramer, Ala.**

PACKAGE BEES . . GULF BREEZE . . QUEENS

We are offering you from one package to a TRUCK LOAD with our popular GULF BREEZE queens at our low prices. 10 percent more colonies to supply the growing demand.

Quantity	Queens	2-lb. w/q	3-lb. w/q	4-lb. w/q
1-24	$1.10	$3.25	$4.15	$5.15
25-up	1.00	3.00	3.90	4.90

Bessonet Bee Company — **Donaldsonville, La.**

1952 ITALIAN PACKAGE BEES AND QUEENS 1952

Quantity Packages	2-lb. w. q.	3-lb. w. q.	4-lb. w. q.
1-12	$3.00 ea.	$4.00 ea.	$4.80 ea.
13-99	2.90 ea.	3.75 ea.	4.60 ea.
100 or more	2.75 ea.	3.50 ea.	4.25 ea.

QUEENS: $1.00 each, postpaid.

Above prices are F. O. B. Hahira, Ga. Live delivery GUARANTEED. Certificates of Inspection included with all shipments. TERMS: Payment in full prior to shipping.

GOLD LEAF APIARIES — **BOX 252** — **HAHIRA, GA.**

Dadant's Starline Hybrids — Produced in Little's Apiaries — John Davis Italians

	Queens	Packages 2-lb.	3-lb.	4-lb.	Queens Packages with Davis
1-24	$1.45	$3.75	$4.50	$5.45	$1.20 queens deduct
25-99	1.35	3.50	4.40	5.25	1.10 25c from
100-up	1.25	3.25	4.25	5.15	1.00 Starline prices

Reg. U.S. Pat. Off.

Extra pounds, $1.00 per lb. Shipping starts about April 10.

LITTLE'S APIARIES

Shelbyville, Tenn. — P. O. Box 122